Technical Procurement Specification
For
Light Weight Modular Berths

INDEX

1.0 Scope.

1.1 Purpose. This specification provides both general and specific item information and requirements necessary for the procurement, manufacturing, inspection and testing of Lightweight Modular Berths. This specification modifies several of the mandatory requirements/notes as given within reference documents supporting this specification. A complete review of all documents should be accomplished in order to satisfy item procurement and manufacturing requirements as stated herein.

This specification also provides the flexibility to order berth units in kit form for each different configuration and also orders spare or loose parts in kit form.

1.2 Design. The Lightweight Modular Berth design is detailed in NAVSEA TYPE Drawing 804-5959312, Revision "A". This drawing depicts various berth types or berth unit configurations for Crew, Troop, and CPO berth units. Berth types or unit configurations may range from 2 to 4-High sleeping surfaces with several vertical surface clearances; with short, medium or long berth unit lengths; with various combinations of berth lockers and berth pans; and associated items of berth outfitting.

1.3 Subassemblies. Each berth unit is made up of a number of individual subassemblies, such as the Sub-base, Head and Foot Boards, Insert Panels, Back Panels, Berth Lockers and/or Pans, Berth Lights and so forth. The NAVSEA TYPE drawing illustrates a complete or basic berth with such subassemblies installed. However, depending on the specific ship project installation, various subassemblies such as Insert Panels and/or Back Panels can often be deleted from the basic berth unit. For example, two (2) 3-High berth units placed back-to-back would permit the deletion of one or two Back Panels from one (1) of the 3-High berth units. Similarly, placement of the Foot Board against a bulkhead may allow deletion of some or all of the Foot Board Insert Panels.

The Head Board and Foot Board are open-framed structures that provide structural stability to the berth unit. Insert Panels are added into these open frames for privacy concerns. Conversely, the Back Panels furnish both structural stability and privacy to the berth unit. Depending on the berth installation location within the compartment, omission of one or more Back Panels maybe necessary in order to provide maintenance accesses through the berth unit for hull or bulkhead inspections, cleaning or facilitating damage control efforts. When such Back Panels are removed from a berth unit, structural stability of the unit must be maintained. This can be done by either securing the berth unit to an adjoining berth unit in a back-to-back arrangement, or by securing the unit to an adjacent ship's structure, or by the installation of diagonal Cross Bracing. Deletion of Insert and Back Panels, in different combinations, results in a significant weight reduction and cost savings per berth unit.

1.4 Berth Identification (ID) Number (BIN or Find Number). The utilization of different combinations of Insert and Back Panels results in a very large number of possible berth configurations. In order to identify each possible combination as a unique berth configuration, a Berth Identification (ID) Number is utilized. This number is also referred to as the BIN or the Find Number. The Berth ID (BIN or Find Number) is composed of two parts: the Basic Berth Number followed by the Berth Extension Letters. Identifying each berth configuration requires utilizing the Berth Identification (ID) Number Chart (Figure 1).

1.4.1 Basic Berth Number. The Basic Berth Number identifies the basic berth unit by the number of sleeping surfaces, the number of berth lockers (when utilized), and a numerical code identifying the berth size and style. The numerical code identifies the vertical spacing between sleeping surfaces and the berth length, including end use suitability for accommodating Crew, Troop or CPO personnel.

1.4.2 Berth Extension letters. The Berth Extension letters allow for the identification of options or additional requirements to the basic berth. Extension letters may identify omitted Insert and Back Panels, additional berth outfitting items, requirement for an Emergency Escape Kick-Out Panel assembly installation, or unit to meet High Impact shock qualifications, i.e. Extension Letter "W".

1.5 Berth Identification (ID) Number Chart. Figure 1 furnishes the information required to decode the Berth Identification (ID) Number (BIN or Find Number) into simplified descriptions for berth configurations and associated berth outfitting requirements.

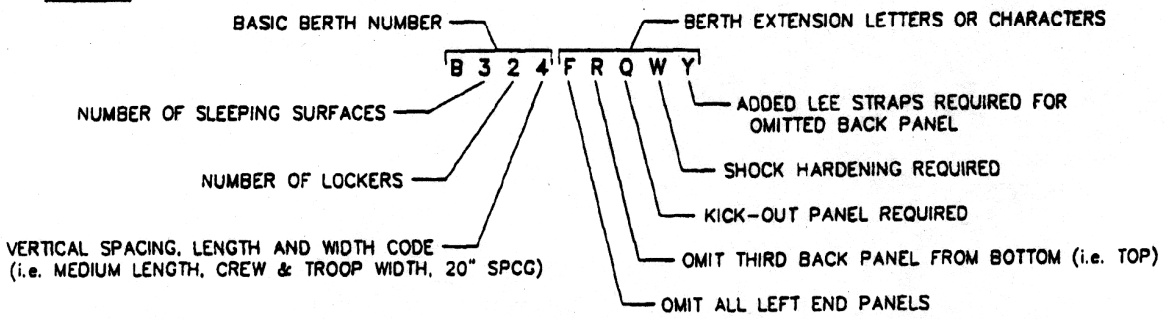
FIGURE 1

BERTH IDENTIFICATION (ID) NUMBER CHART
BIN OR FIND NUMBER

BASIC BERTH NUMBER –"B" FOLLOWED BY 3 DIGITS;
- --NUMBER OF SLEEPING SURFACES
- --NUMBER OF LOCKERS (BALANCE ARE PANS)
- --CODE FROM TABLE BELOW INDICATING VERTICAL SPACING (SPCG), LENGTH AND WIDTH.

BERTH EXTENSION LETTERS –OPTIONS;
- --PANELS TO BE OMITTED FROM UNIT
- --ADDED OR DELETED REQUIREMENTS FROM BASIC BERTH

EXAMPLE:



VERTICAL SPACING, LENGTH AND WIDTH CODE

ID NO. CODE	DRAWING DESCRIPITION	COMMON DESCRIPITION
0	SIZE 1, STYLE 1	SHORT, CRW/TRP, 18" SPCG
1	SIZE 2, STYLE 1	MEDIUM, CRW/TRP, 18" SPCG
2	SIZE 3, STYLE 1	LONG, CRW/TRP, 18" SPCG
3	SIZE 1, STYLE 2	SHORT, CRW/TRP, 20" SPCG
4	SIZE 2, STYLE 2	MEDIUM, CRW/TRP, 20" SPCG
5	SIZE 3, STYLE 2	LONG, CRW/TRP, 20" SPCG
6	SIZE 4, STYLE 2	MEDIUM, CPO, 20" SPCG
7	SIZE 5, STYLE 2	LONG, CPO, 20" SPCG
8	SIZE 4, STYLE 3	MEDIUM, CPO, 23" SPCG
9	SIZE 5, STYLE 3	LONG, CPO, 23" SPCG

SIZE=LENGTH AND WIDTH

1 = SHORT, CRW/TRP
2 = MEDIUM, CRW/TRP
3 = LONG, CRW/TRP
4 = MEDIUM, CPO
5 = LONG, CPO

STYLE=VERTICAL SPACING

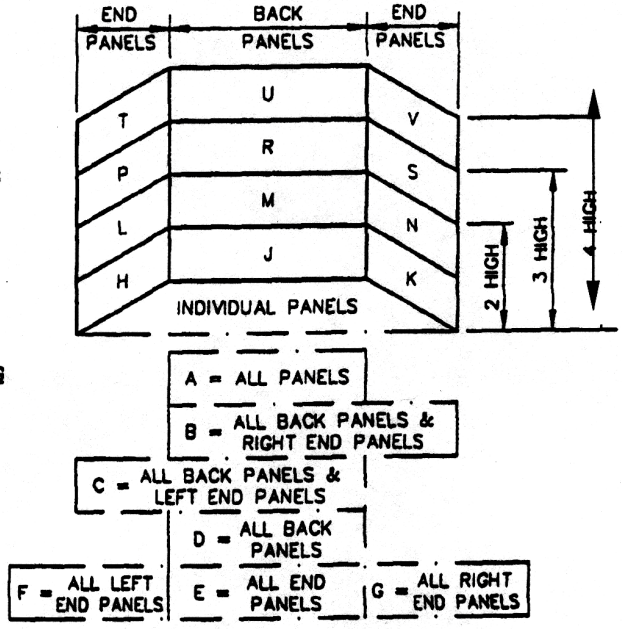
1 = 18" SPACING
2 = 20" SPACING
3 = 23" SPACING

SHORT LENGTH = 75-3/4"
MEDIUM OR STANDARD LENGTH = 79-1/4"
LONG LENGTH = 83-1/4"
CRW/TRP, CREW/TROOP WIDTH = 27-3/4"
CPO WIDTH = 29-3/4"

"TYPE" NOTATION USED ON TYPE DRAWING

TYPE CRW/TRP	TYPE CPO
TYPE I = 3HI, 3LKR	TYPE X = 3HI, 2LKR
TYPE II = 3HI, 2LKR	TYPE XI = 3HI, 1LKR
TYPE III = 3HI, 1LKR	TYPE XII = 3HI, 0LKR
TYPE IV = 3HI, 0LKR	TYPE XIII = 2HI, 2LKR
TYPE V = 4HI, 0LKR	TYPE XIV = 2HI, 1LKR
TYPE VI = 2HI, 2LKR	TYPE XV = 2HI, 0LKR
TYPE VII = 2HI, 1LKR	
TYPE VIII = 2HI, 0LKR	

EXTENSION LETTERS: OMITTED PANELS



EXTENSION LETTERS: ADDED OR DELETED REQUIREMENTS

- ⊖ = WITHOUT BERTH LIGHT (SEE ELEC PL)
- X = CROSS BRACING REQUIRED
- Y = ADDITIONAL LEE STRAPS REQUIRED DUE TO OMITTED BACK PANEL(S)
- Z = ADDITIONAL CURTAIN TRACK REQUIRED
- Q = KICK-OUT PANEL FOR EMERGENCY ESCAPE REQUIRED
- W = SHOCK HARDENING REQUIRED
- * = WITHOUT FAN ASSEMBLIES
- $ = WITHOUT LEE STRAPS
- # = WITHOUT SUBBASE (SEPERATELY ORDERED/SHIPPED)

2.0 Applicable Documents.

2.1 Applicable Specifications. The document references listed below are considered first tier reference documents and form a part of this contract. First tier reference documents may identify other reference documents (not listed) required to support and clarify stated first tier document requirements.

SPECIFICATION		SLASH	REV	DATE	DISTR	AMEND	NOTICE
NUMBER	TYPE	NO.			STMT		
A-A-1936	CID		A	25 FEB 00	A		2
A-A-50598	CID			22 MAY 92	A		
A-A-59109	CID		B	16 APR 01	A		
A-A-59473	CID			23 JUN 99	A		
ASTM-A336/336M	COML		99	10 JAN 99	A		
ASTM-A36/A36M	COML		01	10 SEPT 01	A		
ASTM-B209	COML		02	10 APR 02	A		
ASTM-D3951-98	COML		98	10 NOV 98	A		
ASTM-E2072-00	COML		98	10 FEB 00	A		
ASTM-F1178-01	COML		01	10 JUN 01	A		
FED-STD-595	FEDERAL			11 JAN 94	A		1
MIL-PRF-24712 MIL-PRF-24712	MILITARY MILITARY		A A	19 MAR 97 25 MAY 95	A A	1	
MIL-C-24640 QPL-24640-22	MILITARY		B	22 AUG 02 23 AUG 02	A A		
MIL-DLT-31000	MILITARY		B	14 DEC 01	A		
MIL-F-16377 MIL-F-16377	MILITARY MILITARY	 17	G A	22 JUN 89 02 AUG 96	A A		1
MIL-S-901	MILITARY		D	17 MAR 89	A		
MIL-STD-129	MILITARY		N	15 MAY 97	A		
MIL-STD-130	MILITARY		J	01 JUN 97	A		
QPL-TT-E-489-48	FEDERAL		48	14 JAN 98	A		

2.2 Navy Type and Standard Drawings.

2.2.1 NAVSEA TYPE Drawing.

? 804 - 5959312 Revision A; Lightweight Modular Berth

2.2.2 NAVSEA STANDARD Drawings.

? 803 - 5751208 Revision A; Emergency Escape Breathing Device Stowage Container

? 803 - 5001001 Revision D; M-16 Rifle Rack

2.2.3 NAVSEA Drawing.

? 807 - 6251154 Revision "-"; Standard Details (Rifle Rack MODS and MTG Details)

2.3 Document Ordering Information. The contractor/manufacturer must obtain all applicable document references and in addition to other document references that are not listed. Refer to Clause 52.211-2 contained in Section L of the solicitation.

2.4 Order Of Precedence.

2.4.1 Where the requirements of the contract differ from those of the applicable drawing(s) or reference specification(s) cited herein, the contract description and notes shall prevail.

2.4.2 Where the requirements of the applicable drawing or this technical specification differ from those of other reference specifications, the drawing and technical specification shall prevail.

2.5 List of Figures.

3.0 Requirements. (NOTE: Item descriptions and related piece numbers identified in this technical procurement specification are identical to those items identified in NAVSEA TYPE Drawing 804 - 5959312, Revision "A". Therefore, wherever NAVSEA TYPE Drawing is stated within, items and piece numbers are referenced from drawing 804 - 5959312, Revision "A".)

3.1 Design and Manufacturing. Lightweight Modular Berth unit including each berth unit subassembly and/or component and articles of berth outfitting shall:

- ? Conform to the design requirements of the NAVSEA TYPE Drawing 804 - 5959312 Revision "A" and the stated requirements of this technical procurement specification.
- ? Conform to material and manufacturing requirements of the individual product or process specification listed in this technical procurement specification.
- ? Be free from slivers, burrs, sharp edges and so forth which may result in injury to personnel engaged in the handling and/or erection of subassemblies and/or components that form each berth unit.

NOTE: There is no extension of any previous drawing approvals for application under this contract. All items shall be produced strictly in accordance with the Contract Line Items, invoked drawings and requirements of the contract except as specifically authorized by approved engineering change proposal, deviation and so forth for this contract solicitation.

3.2 Fasteners.

3.2.1 Hardware. All exposed hardware shall be in accordance with the material requirements stated in the NAVSEA TYPE Drawing and this technical procurement specification.

3.2.2 Hardware Quantities. The contractor/manufacturer of the berth unit is responsible for providing all hardware items needed to successfully assemble and erect each berth unit, regardless of the fastener quantities listed as individual contract line item descriptions or as referenced in the NAVSEA TYPE Drawing.

3.2.3 Additional Hardware. In addition to the above, the contractor/manufacturer shall provide 20 percent more fasteners than would typically be needed for on-site field connections. These overage quantities are generally not included in contract line item descriptions.

3.2.4 Hardware Exceptions. The contractor/manufacturer will not furnish Welding Studs, Threaded Studs, Stud Sockets and Hex Nuts (piece numbers 43, 44, 45 and 46 respectively), Anti-kick-in Clips (piece number 47), Flashing (piece number 88) and Blind Rivets (piece number 131).

3.2.5 Dual Hardware for Spares. Where there are two possible fasteners for a particular joint connection, both types of fasteners shall be provided for on-site field assembly. For example, a Spare Berth Locker could be installed within the berth unit as either a Bottom/Intermediate/Top Berth Locker so it would be provided with four (4) Hex Head Machine screws, six (6) Pan Head Machine screws, and six (6) nuts.

3.2.6 Hardware Item Changes.

3.2.6.1 Step/Lift Handles. Fasteners for Step/Lift Handles (piece numbers 53 and 90) shall be piece numbers 73 and 74, except Hex nut (piece number 74) shall be acorn or cap type nuts.

3.2.6.2 Bottom Berth Lockers and Berth Pans. One (1) #10 CRES washer shall be provided with each fastener (piece number 72) for attaching the Bottom Locker and/or Pan to the Sub-base.

3.2.6.3 Lee Strap. Acorn or cap type nuts shall be furnished and length of Machine Screw or bolt shall suit strap installation.

3.2.6.4 Cardholder. Each Cardholder (piece number 68) furnished shall have two (2) 6-32 UNC CRES Flat Head Machine screws and acorn or cap type lock nuts of equal material and thread design.

3.3 Sub-base Trim.

3.3.1 Steel Deck. Sub-base Trim (piece number 41) shall be 2-1/2 inches high in lieu of 1-3/4 inches; the height identified in Detail 63-E of the NAVSEA TYPE Drawing.

3.3.2 Aluminum Deck. Sub-base Trim (piece number 42) shall be 4 inches high in lieu of 2-3/8 inches; the height identified in Detail 63-D of the NAVSEA TYPE Drawing.

3.3.3 Rear Recess Modification. The recess across the back of the Sub-base as shown in Detail 61-B of the NAVSEA TYPE drawing shall be 0.175 inches in lieu of 1/8 inch.

3.3.4 Sub-Base Corner Bracket Modification. A minimal weight version of the formed steel components that span from front to back across each Sub-base end as detailed in paragraph 7.4.1 could be considered for replacing Sub-base Corner Brackets (piece numbers 125 through 128) for non-shock hardened berth units. The proposed design must be properly detailed prior to submitting the design for technical review and approval.

3.4 Level of Berth Unit Assembly. Each berth unit shall be assembled and made ready for field installation to the maximum extent possible. Each Subassembly shall be fully assembled and provided with all mounting holes as specified on the NAVSEA TYPE drawing and as required herein. In addition, the contractor/manufacturer is responsible for ensuring that all Subassemblies fit together properly when assembled in accordance with the manufacturer's isometric assembly drawing and supporting erection sequence instructions.

3.4.1 Curtain Track. Curtain track (piece number 65) shall be factory installed on each Grab Bar (piece number 63) and on the bottom front edge of each Intermediate and Upper Berth Locker and/or Berth Pan when ordered as part of a berth unit.

3.4.1.1 Spare Berth Lockers. When procured as Spares, Berth Lockers shall be furnished without Curtain Tracks installed.

3.4.1.2 Spare Grab Bars. When procured as Spares, Curtain Tracks shall be factory installed on each Grab Bar.

3.4.2 Step/Lift Handles. Step/Lift Handles (piece numbers 53 and 90) shall be shipped loose with Berth Lockers and Berth Pans. However, all Berth Lockers and Pans must be furnished with pre-drilled mounting holes and the Step/Lift Handle must be installed for inspection prior to shipment. (NOTE: The Step/Lift Handle is a component of the Berth Locker solicitation line item. For Berth Pans, the Step/Lift Handle is separately itemized).

3.4.3 Insert Panels. Insert Panels (piece number 50) shall be factory installed in Head/Foot Board Frame Assemblies.

3.4.4 Kick-Out Panel and Frames. Emergency Escape Kick-Out Panel and Frame shall be factory installed in Bottom Back Panels for berth units ordered with this item. Installation location is detailed in paragraph 3.10.1.

3.4.5 Cardholder. Cardholders (piece number 68) shall be shipped loose (paragraph 5.2.1.2 refers).

3.4.6 "Long Berth" Label Plate. "Long Berth" Label Plate (piece number 140) shall be shipped loose with each long Grab Bar (piece number 63), (paragraph 5.2.1.2 refers).

3.4.7 Towel Bars. Towel Bars (piece number 54) shall be shipped loose (paragraph 5.2.1.2 refers).

3.4.8 Mounting Holes.

3.4.8.1 Step. Mounting holes for Steps (piece numbers 61 and 62) shall not be provided. Item will be field drilled to suit each berth unit's Head/Foot Board on-site arrangement.

3.4.8.2 Berth Light. In order to reduce drilled-hole requirements, 1/4-inch diameter multiple knockouts shall be furnished on both ends of each Cover Panel (piece number 33), Berth Locker and Berth Pan to suit the field mounting of Berth Lights (piece number 49) to either a Style 1 or Style 2 Berth unit (similar to Figure 2). Locations of knockouts shall be in accordance with top mounting dimensions of Light Fixture Symbol 232.1 as per MIL-F-16377/17 and Note 25 of the NAVSEA TYPE Drawing.

3.4.8.2.1 Spare Berth Lockers. Lockers procured as Spares shall be furnished with knockouts.

3.4.8.2.2 Berth Light Bracket. Brackets shall be provided with drilled-holes and shall be in accordance with Detail 55-A.

3.4.8.3 EEBD Stowage Container Bracket. Provide mounting holes on EEBD Stowage Container Bracket (piece number 87) to suit the drill-hole pattern and size as specified on NAVSEA STANDARD Drawing 803-5751208. Offset stowage containers back one (1) inch from the back of the Container Bracket for drill hole pattern location.

3.4.8.4 Towel Bar. Mounting holes on Head/Foot Board for Towel Bar (piece number 54) shall not be provided.

3.4.8.5 Cardholder. Mounting holes on Berth Locker/Pan for Cardholder (piece number 68) shall not be provided.

3.4.8.6 "Long Berth" Label Plate. Mounting holes on Berth Locker/Pan for Label Plate (piece number 140) shall not be provided.

3.4.8.7 Bottom Lockers and Pans. Bottom Berth Lockers and Pans shall be furnished with four- (4) 3/8-inch diameter mounting holes located at each corner in lieu of the four- (4) 7/32 by 3/8-inch slotted openings shown on the NAVSEA TYPE drawing. The two- (2) 7/32 by 3/8-inch slotted openings located at the middle of each locker or pan end (Detail 27-D) shall not be provided.

3.4.8.8 Ring Keeper. Provide mounting holes to suit Ring Keeper (piece number 67) installation on each Berth Locker, Berth Pan and Grab Rod.

3.4.8.9 Lee Strap Assembly. Mounting holes on Berth Locker/Pan for Eyelet (piece number 60) shall not be provided unless Lees Strap assemblies are identified in the Berth Identification Number (BIN or Find Number).

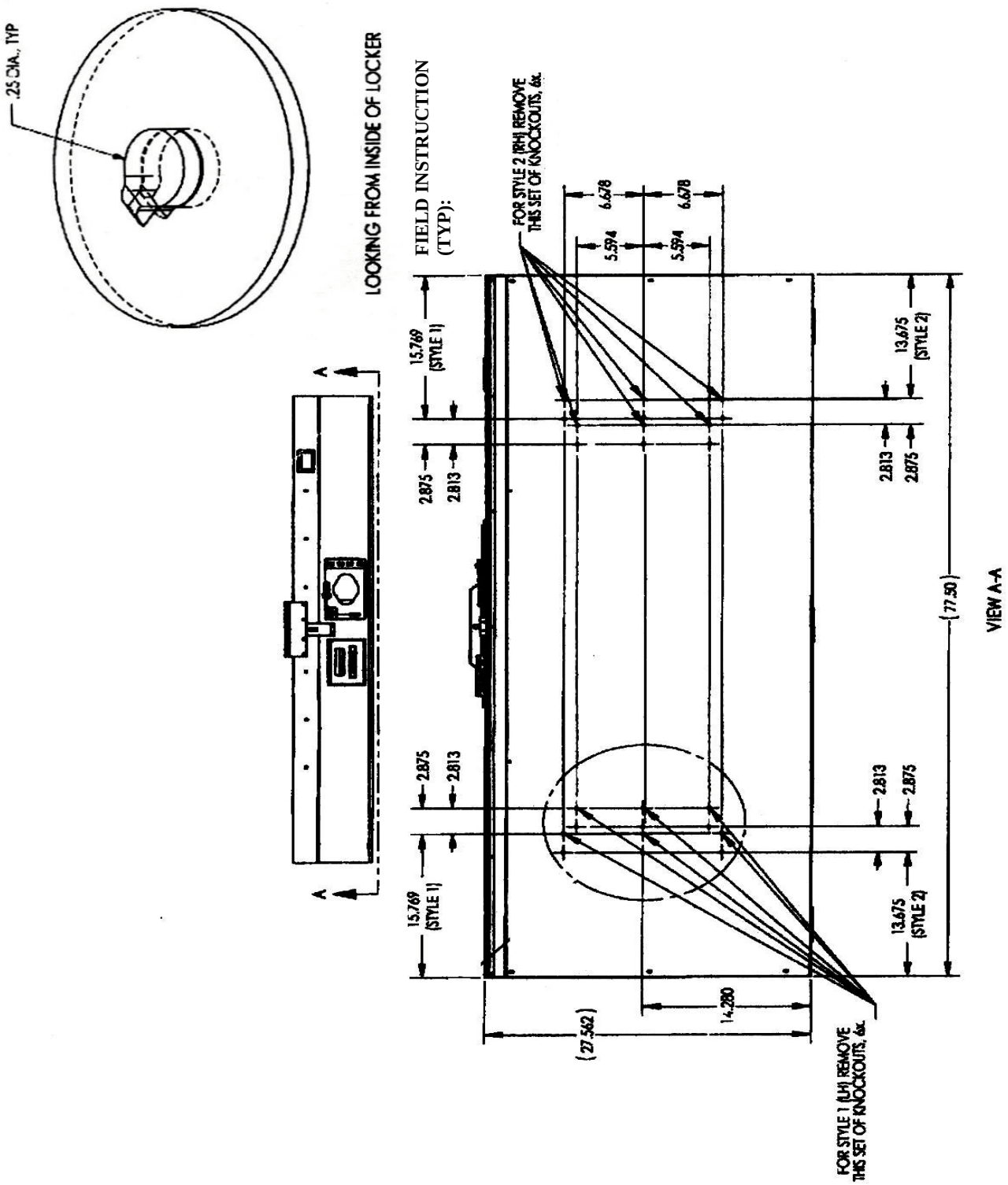
3.4.9 Locker Lid Lift Assist Spring Assembly.

3.4.9.1 Spring assembly shall be factory installed in each Upper/Intermediate/Lower Berth Locker when ordered as part of a berth unit.

3.5 Berth Lockers and Berth Pans.

3.5.1 Hasp/Staple. Staple (piece number 23) as shown in Detail 39-C shall be modified by increasing the dimension locating the center of the lock hole from 11/32 inches to 7/16 inches.

FIGURE 2
KNOCKOUT PATTERN


.25 DIA., TYP
LOOKING FROM INSIDE OF LOCKER
A
A
FIELD INSTRUCTION (TYP):
FOR STYLE 2 (RH) REMOVE THIS SET OF KNOCKOUTS, etc.
6.678
5.594
15.769 (STYLE 1)
2.875
2.813
13.675 (STYLE 2)
(77.50)
(27.562)
14.280
FOR STYLE 1 (LH) REMOVE THIS SET OF KNOCKOUTS, etc.
VIEW A-A

3.5.2 Welds.

3.5.2.1 Locker Door. The contractor/manufacturer shall provide three- (3) 1-inch long edge welds, set at 3 inches apart and ground flush, securing the bottom portion of Locker Door Frame (piece number 30) to the Berth Locker front extrusion (piece numbers 10 or 11) along the cut-out opening (see Detail 45-D)

3.5.2.2 Hinged Berth Lid/Berth Rail. The back corner joints of Berth Rail extrusion (piece number 20) shall be completely welded on both sides of the joint and ground smooth, and butt welded entirely along the underside then ground flush. The front corner joints of Berth Rail extrusions (piece numbers 19 and 20) and End Plate (piece number 114) shall be completely welded (butt and fillet) on the inside, except in way of Bottom Panel (piece number 21), (Detail 35-E refers).

3.5.2.3 Berth Pan/Berth Rail. The inside joints of Berth Rail extrusions (piece number 19) shall be completely welded (butt and fillet), except in way of Bottom Panel (piece number 21), (Detail 39-E refers).

3.5.3 Locker Door. The location dimension for the 0.312 inch diameter bolt hole for the Combination Lock (piece number 31) shall be 5.17 inches from the left edge of Locker Door in lieu of 2.33 inches from the right edge of the door as shown in Detail 45-D.

3.5.4 Locker Lid Lift Assist Spring Assembly.

3.5.4.1 Center Hinge Reinforcement. For all Crew berth locker units, the Center Hinge Reinforcement (piece number 17) shall be modified from the design detail identified in Section 29-A to suit the new design detail provided in Figure 3 and the installation requirement provided in Figure 4.

3.5.4.2 Spring Bracket Doubler Plate. A Spring Bracket Doubler plate shall be manufactured to the design guidance provided in Figure 5 and factory installed in accordance with the installation requirement provided in Figure 6 for all Crew berth locker units.

3.5.4.3 Spring Brackets. Spring Brackets for mounting the gas spring shall be manufactured to the design guidance provided in Figure 7 and factory installed in accordance with the installation requirement provided in Figure 8 for all Crew berth locker units.

3.6 Head/Foot Board Frame.

3.6.1 Similar Frame Assemblies. When the Head/Foot Board Frame assemblies are the same due to the inclusion or omission of the same Insert Panels, only one of the Frame assemblies shall be furnished with two- (2) 9/16 by 1-1/2-inch elongated wiring access holes in accordance with Detail 20-A.

3.6.2 Dissimilar Frame Assemblies. When the Head/Foot Board Frame assemblies are different due to the omission of Insert Panels, both of the Frame assemblies shall be furnished with two- (2) 3/4-inch wiring access holes, centered one (1) inch below the Intermediate Rail (piece number 2), similar to Detail 20-A.

3.6.2.1 Protective Devices. Provide two (2) rubber grommets to suit the 3/4 inch wiring access holes and two (2) white nylon plugs (HEYCO Dome Plugs, part number 2684, item description DP-750 or equal) for each dissimilar frame assembly.

3.6.3 Frame Assembly Spares. Head/Foot Boards bought separately or as Spares shall not be furnished with wiring access holes.

3.6.4 Adhesive. A commercial epoxy in accordance with A-A-1936A shall be used for installing Manufacturer's Label Plate (piece number 83) to the Frame assembly.

FIGURE 3
CENTER HINGE REINFORCEMENT

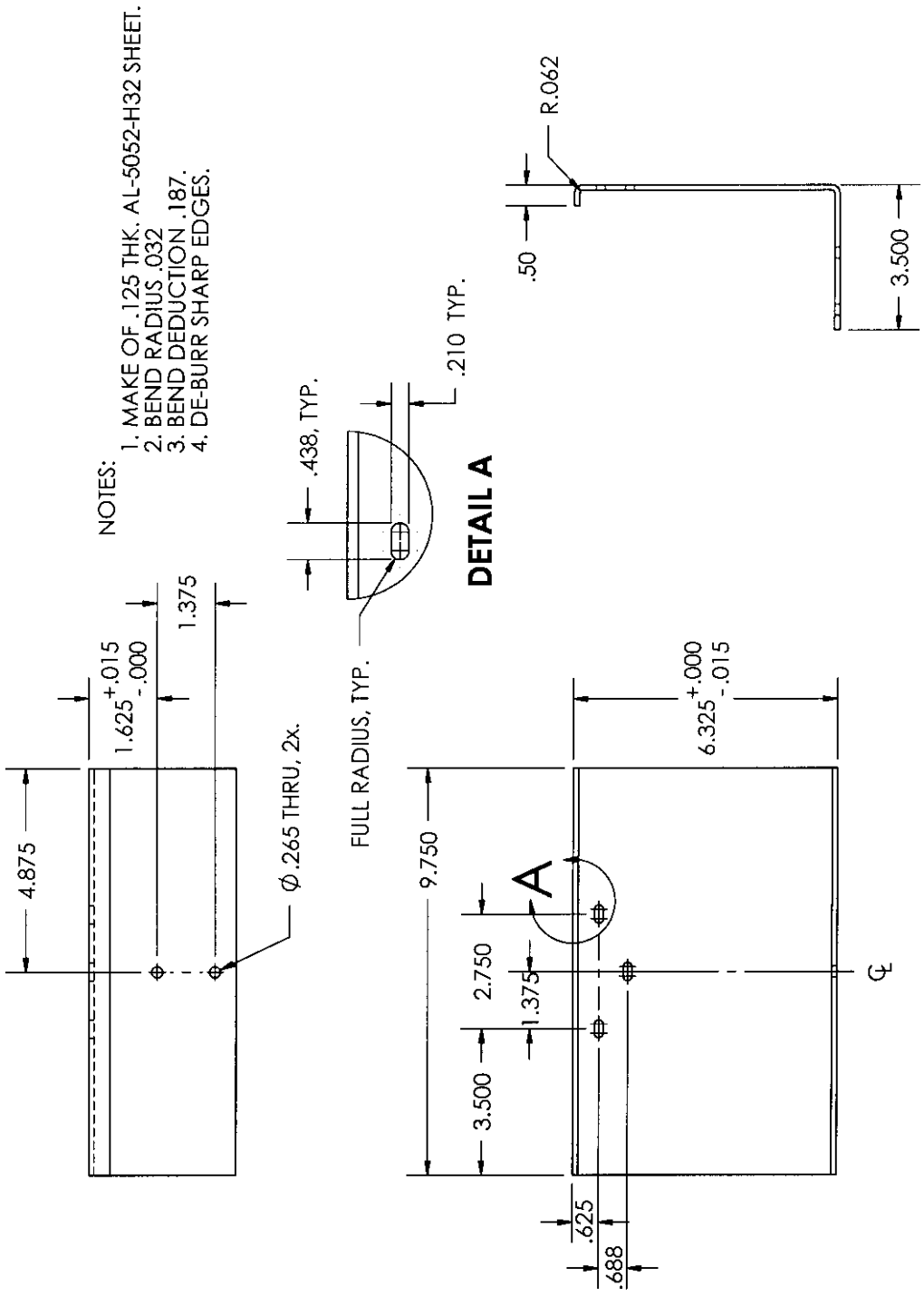
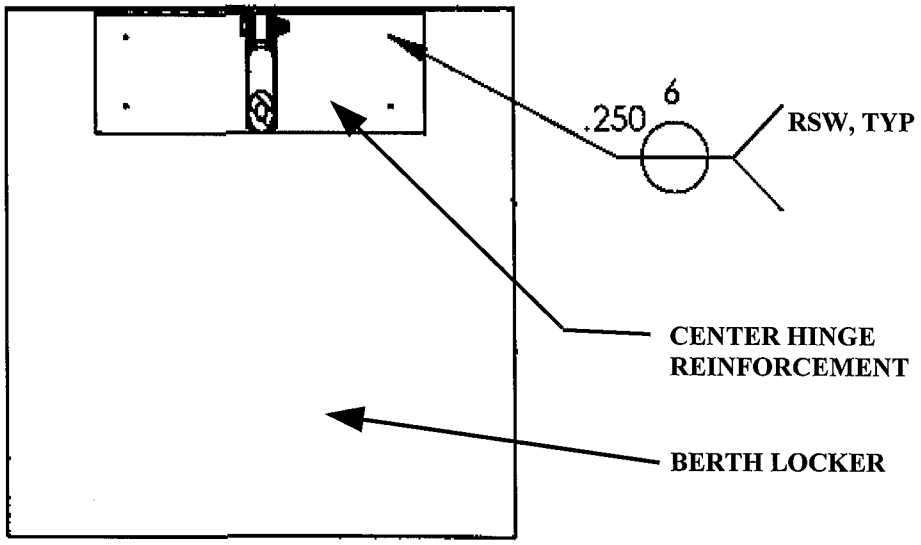


FIGURE 4
CENTER HINGE REINFORCEMENT INSTALLATION

NT

TYP



SECTION E-E

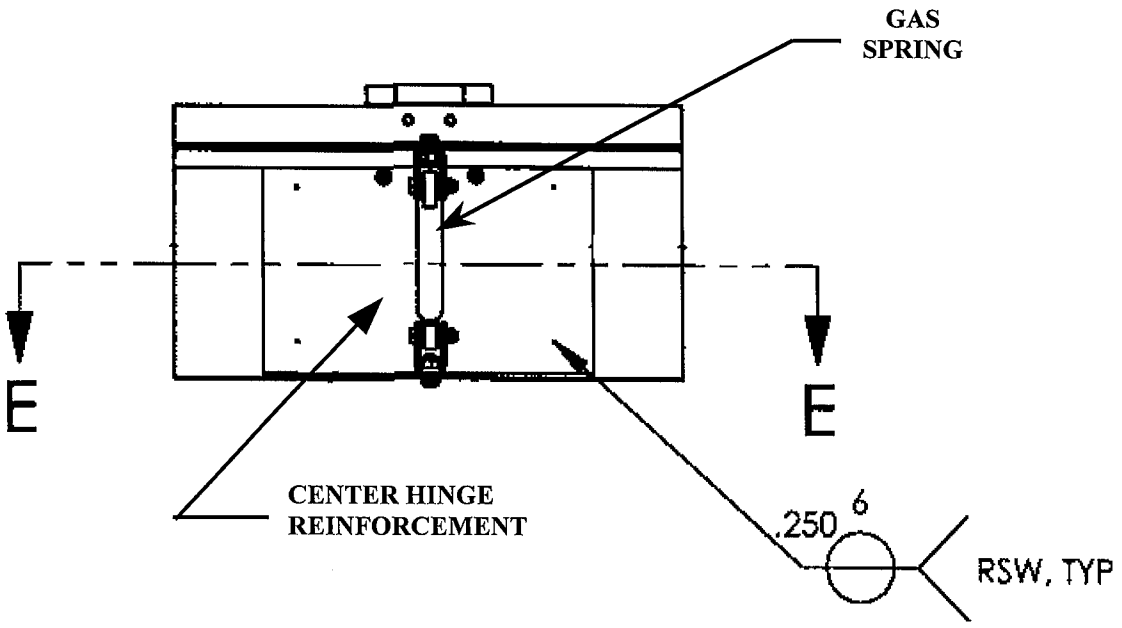
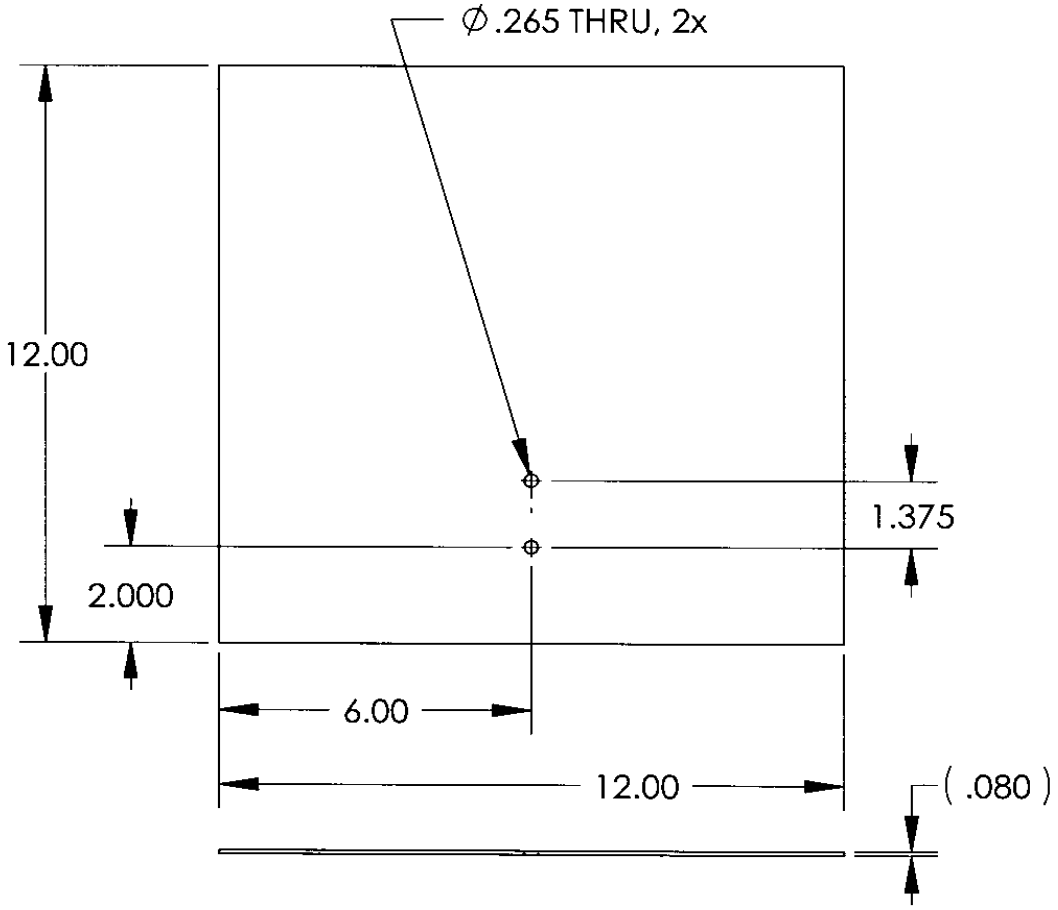


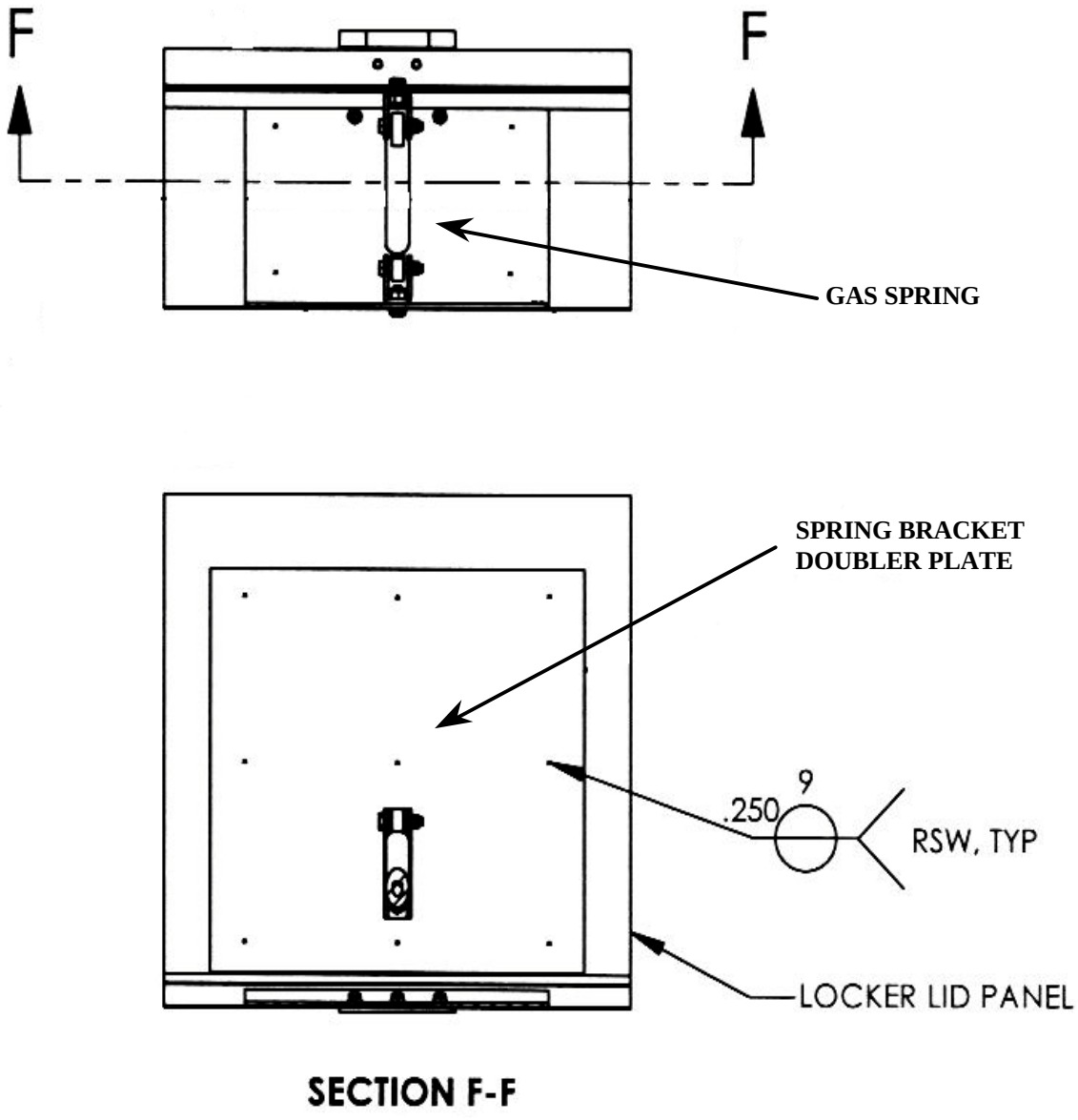
FIGURE 5
SPRING BRACKET DOUBLER PLATE



NOTES:

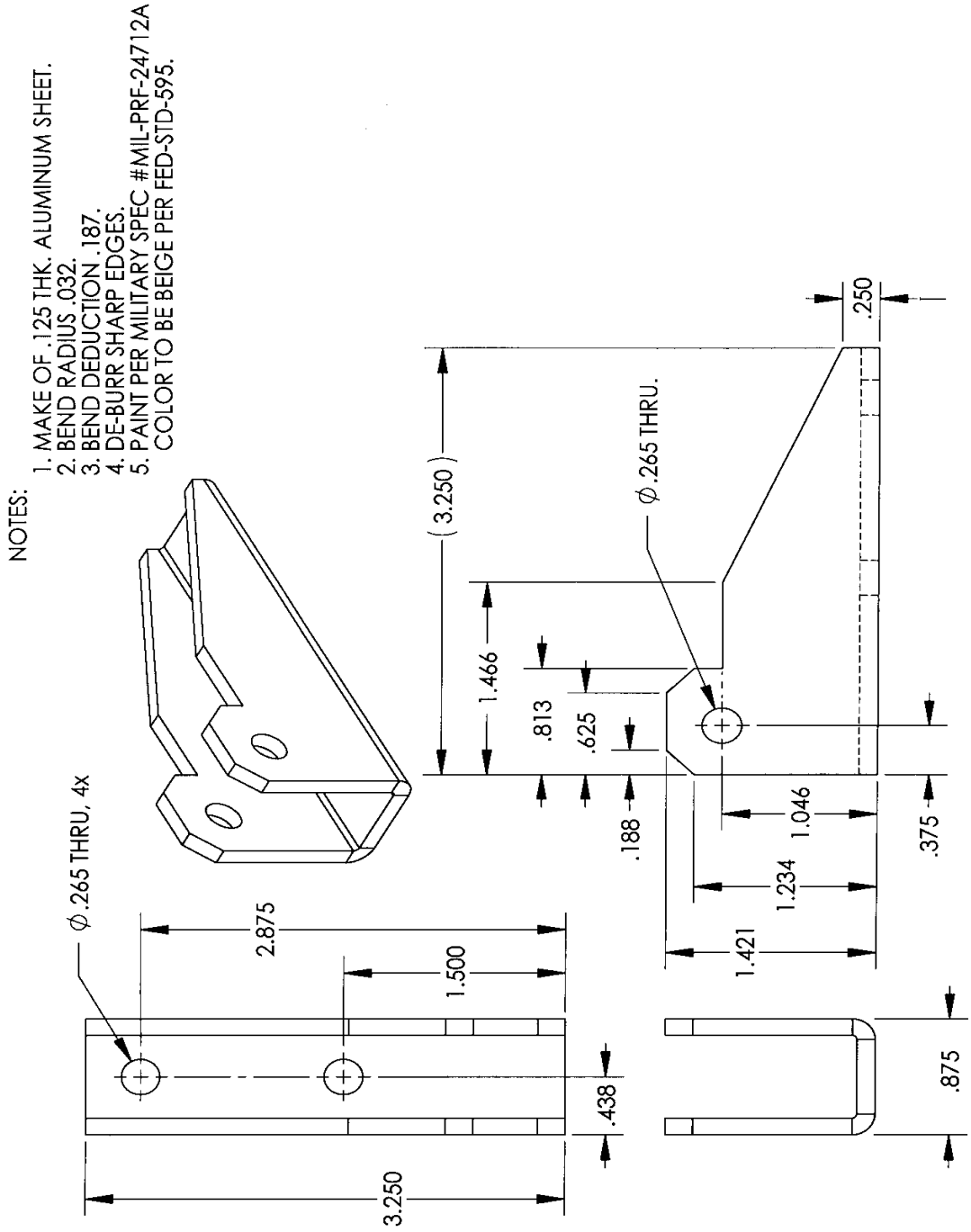
1. MAKE OF .080 THK. ALUMINIUM SHEET.
2. DE-BURR SHARP EDGES.

FIGURE 6
SPRING BRACKET DOUBLER PLATE INSTALLATION



SECTION F-F

FIGURE 7
SPRING BRACKET



3.7 EEBD Compartment and Door.

3.7.1 Welds. EEBD Compartment Door (piece number 34) shall be spot welded to Hinge (piece number 14) leaf with four (4) equally spaced welds, each at 400 pound strength.

3.7.2 Labels and Lanyard Assembly. Labels and Pull Pin/Lanyard Assembly shall be in accordance with NAVSEA STANDARD Drawing 803-5751208 Revision A and as modified below:

3.7.2.1 Labels. Identification Label (piece number 5) and Pull Pin Label (piece number 6) shall conform to phosphorescent (vinyl tape) material that satisfy minimum photometric requirements per ASTM E2072.

3.7.2.2 Adhesive. Pressure sensitive adhesive backing on each tape form label shall be furnished.

3.7.2.3 Label Markings. The label marking shall consist of opaque red lettering and arrow symbol on top of a photo-luminescent background. Height of the "EEBD" lettering shall be identical to Detail 3-E of NAVSEA STANDARD Drawing 803 - 5751208 Rev (A). The "EEBD" label and/or the photo-luminescent background shall be 2 inches by 4-1/4 inches with 1/4 inch spacing between each letter and between label's top and bottom edges to letters.

3.7.2.4 Photo-luminescent Paint System. (NOTE: Paint system shall be applied in accordance with the paint manufacturer's recommendations).

3.7.2.4.1 Paint. Red paint on labels shall be high gloss alkyd enamel in accordance with QPL-TT-E-489-48, and shall match paint color 11105 of FED STD 595. A minimum of two paint coatings shall be furnished.

3.7.2.4.2 Paint System. Photo-luminescent paint system shall be in accordance with A-A-50598 and satisfy minimum photometric requirements per ASTM E2072.

3.8 Cross Bracing.

3.8.1 Extension Letter "X". When Cross Bracing subassemblies 44A1are procured as part of a berth unit, the "TO SUIT" length shown for piece number 39 in Detail 43-A shall be the length to suit the specific berth unit configuration.

3.8.2 Spares. When Cross Bracing (piece number 39) is procured as Spares, the "TO SUIT" length as shown in Detail 43-A shall be 46-1/2 inches, for a total Cross Brace item length of 48 inches.

3.8.3 Attachment. Each cross brace end shall be attached individually to the Intermediate Berth Locker body. The Cross-Brace ends may not overlap each other and may not share fasteners. Each Cross-Brace end shall be attached through the Hinge Reinforcements (piece number 17) in each Intermediate and Top Berth Locker bodies.

3.8.4 Spacer Material. When berth units are ordered with Cross Bracing and with one or more Top or Intermediate Back Panels, a 3-1/4 inch high by 5 inch wide by 1/8 inch thick aluminum spacer shall be spot welded with at least 2 spot welds on the bottom inside corners of each Back Panel in way of cross brace bolting areas. Spacer material fills the gap existing between the Back Panels and the Berth Lockers or Pans in areas where Cross Bracing is installed.

3.9 Berth Light.

3.9.1 Light Fixture. Berth Light Fixture (piece number 49) subassembly 55A3 shall be furnished in accordance with the following:

- ? Light Fixture with receptacle (Symbol 232.1) supplied with 7XW-3 cable in accordance with QPL-24640-19, and HEYCO part numbers 1248 and 2817 and Mid-Atlantic part number 2867 strain relief bushings (CLIN 0133).
- ? Light Fixture without receptacle (formerly Symbol 232 - NSN6230-00-578-7548) supplied with SVT 18/3 cable (CLIN 0134).

3.9.2 Paint Color. Color of fixture shall be identical to the color of the berth unit.

3.9.3 Bracket. Bracket (piece number 48) shall be furnished with 1/2 inch sized drill holes to suit Grommet (piece number 89), located as shown in Detail 55-A.

3.9.4 Grommet. Grommet (piece number 89) shall be appropriately sized to suit the 1/2 inch drill holes furnished on Bracket (piece number 48).

3.10 Kick-Out Panel and Frame Subassembly.

3.10.1 Subassembly Location. Kick-Out Panel (piece number 52) and Frame (piece number 51) subassembly 51D0 shall be located in Bottom Back Panels only. Subassembly shall be centered relative to the head and foot end of the berth unit, and the installation height shall be such that the bottom edge of the Kick-Out Panel (piece number 52) is aligned with the top of the mattress.

3.10.2 Labeling. Each subassembly shall be labeled on both sides with reflective lettering and reflective tape bands as specified below.

3.10.2.1 Reflective Lettering. Lettering shall be centered on each side of the Kick-Out Panel (piece number 52). Lettering shall be a decal of red Engineering Grade Reflective Sheathing that is die-cut weeded and pre-mask applied. Letters shall be 1-inch high and state:

WARNING
EMERGENCY ESCAPE
DO NOT OBSTRUCT

3.10.2.2 Reflective Tape Band. Tape band shall be "Reflexite Conspicuity Tape" in red/silver alternating pattern that is custom slit to 3/4 inches wide. Tape band shall be applied around both outer faces of Kick-Out Panel Frame (piece number 51). Tape shall be punched in way of the machine screws that assemble the frame. (Note: In lieu of corner miters on each section of piece number 51, tape band may stop 1/2 inch from each end screw, such that top and bottom tapes are about 32-3/4 inches in length and the side tapes are about 12-1/2 inches in length.

3.11 Curtain Track.

3.11.1 Installation. Installation shall be similar to Detail 53-C, with the Curtain Track (piece number 65) aligned with the face of the Grab Bar. Rivets are to be installed at 1-inch and 7-1/2-inches from both ends of the track and on 12-inch centers or less along the rest of the length of the track.

3.11.2 Track Aperture. Carrier tape insert aperture shall be as described per paragraph 3.1.3 of CID A-A-59473. Aperture shall be provided at 4 inches from both ends of all curtain tracks, even if the track is furnished as Spares.

3.11.3 Spares. When curtain tracks are ordered as Spares, they shall be 84 inches in length.

3.11.4 Berth ID Number w/Extension letter "Z". Berth units ordered with this extension letter shall be furnished with the required additional curtain track(s) shipped loose.

3.12 Fan.

3.12.1 Fan Assembly. The Fan assembly as shown on Sheet 10 of NAVSEA TYPE Drawing 804 - 5959312 (Rev. A) shall be modified where applicable and made in accordance with attached Figures 2 through 4. This modification simplifies fan unit manufacturing and facilitates field installation of fan unit.

3.12.2 Fan Curtain Snaps.

3.12.2.1 Size. Snap (piece number 317) is female to suit male snap with a critical diameter between 7.19-mm (minimum) and 7.21-mm (maximum).

3.12.2.2 Material. Snaps furnished shall either be of chrome or nickel-plated brass material in lieu of CRES.

3.12.2.3 Location. The centers of the snaps on the fan housing are 1/2 inches from the bottom and 5/8 inches from each side.

3.12.2.4 Fastener. In lieu of CRES material, Rivet fastener (piece number 318) for securing snap onto fan housing shall be aluminum and appropriately sized as to not interfere with the operational performance between the female and male portions of the snaps during curtain installation/removal.

3.12.2.5 Fan Panel Curtain. A fixed Fan Panel Curtain, in accordance with CID A-A-59473 Type 3, has male snap centers 134 mm apart (plus 3 mm / minus 0 mm).

3.13 Painting.

3.13.1 Berth Unit. Paint color shall be beige, color number 26586 in accordance with FED-STD-595.

3.13.1.1 Extra Paint. For every five (5) berth units, one eight (8) ounce spray can of compatible beige Air Dry Enamel touch-up paint that matches the production paint shall be provided with each shipment.

3.13.2 Sub-base. Sub-base assemblies shall be colored black, color number 17038 in accordance with FED-STD-595.

3.13.3 Paint System. Paint system shall be either Baking Enamel or Epoxy Powder Coating in accordance with the following subparagraphs.

3.13.3.1 Baking Enamel Paint System. Enamel paint and paint inspection shall be in accordance with ASTM F-1178-88 "Standard Specification for Enameling System, Baking Metal Joiner Work and Furniture". The performance criteria cited in paragraph eleven (11) of the specification is invoked, except that the requirement for preparing daily test panels or test panels on galvanized steel are waived. Satisfactory testing of panels is required only once prior to production and thereafter only after a change is made to the painting procedure, materials or supplies.

3.13.3.2 Epoxy Powder Coatings. Powder coating in accordance with Military Specification MIL-PRF-24712A, for Type 1 may be utilized, provided that the recommendations of the coating system manufacturer are followed.

3.14 Berth Unit Label. Each complete berth unit shall be furnished with a stamped aluminum manufacturer's label plate in accordance with MIL-STD-130, permanently affixed to the berth unit. Each label plate shall be legibly marked and shall satisfy the requirements of General Note 16 of the NAVSEA TYPE Drawing.

TECHNICAL PROCUREMENT SPECIFICATION For LIGHT WEIGHT MODULAR BERTH

FIGURE 8
FAN HOUSING
MODIFIED PC #301 INSIDE FACE AND BODY (0.040 ALUMINUM)

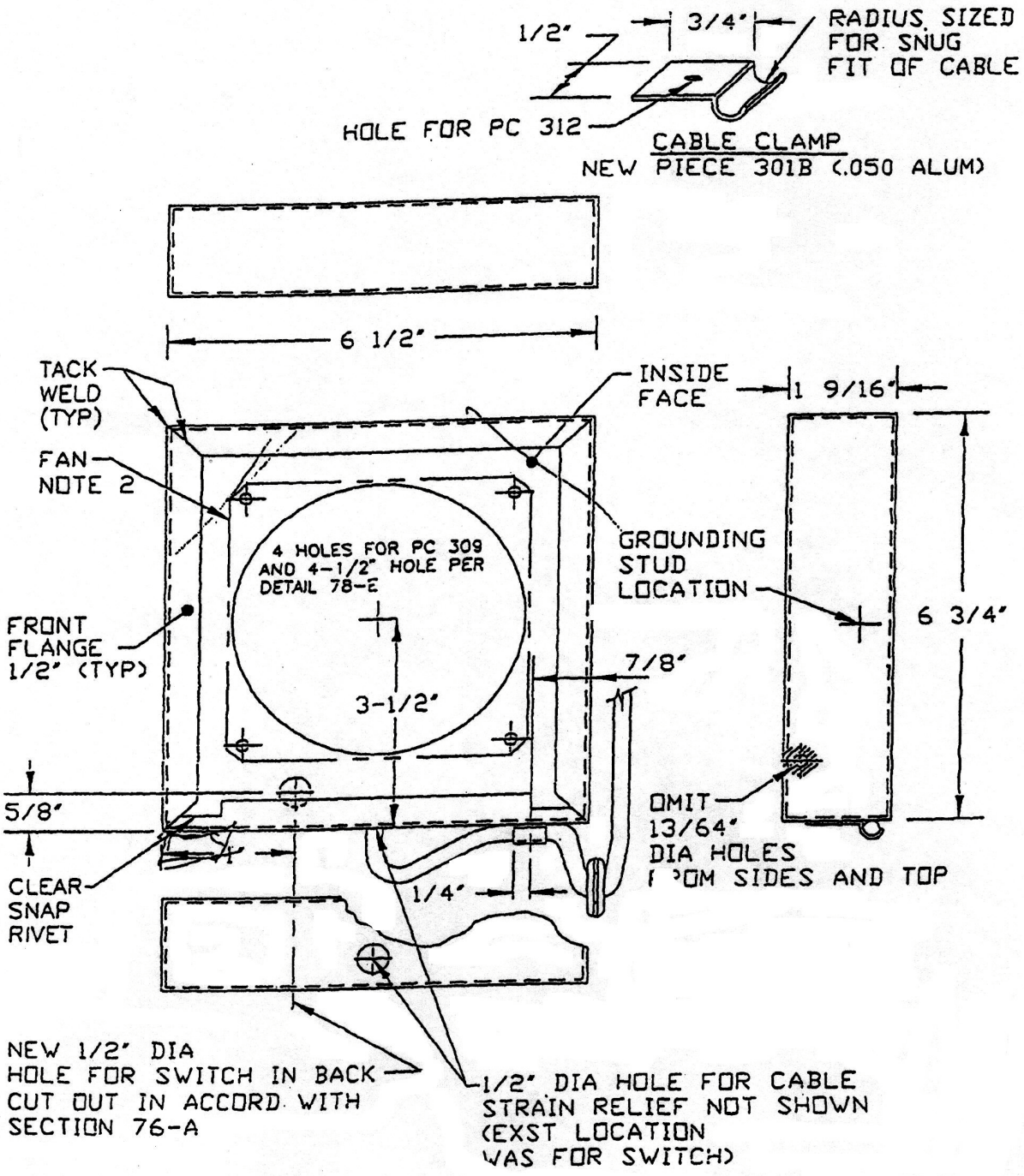


FIGURE 9
MODIFIED FRONT PC #300 (0.040 ALUMINUM) WITH LOVERS PER DETAIL 75-A
SEE NOTES ON FIGURE 10

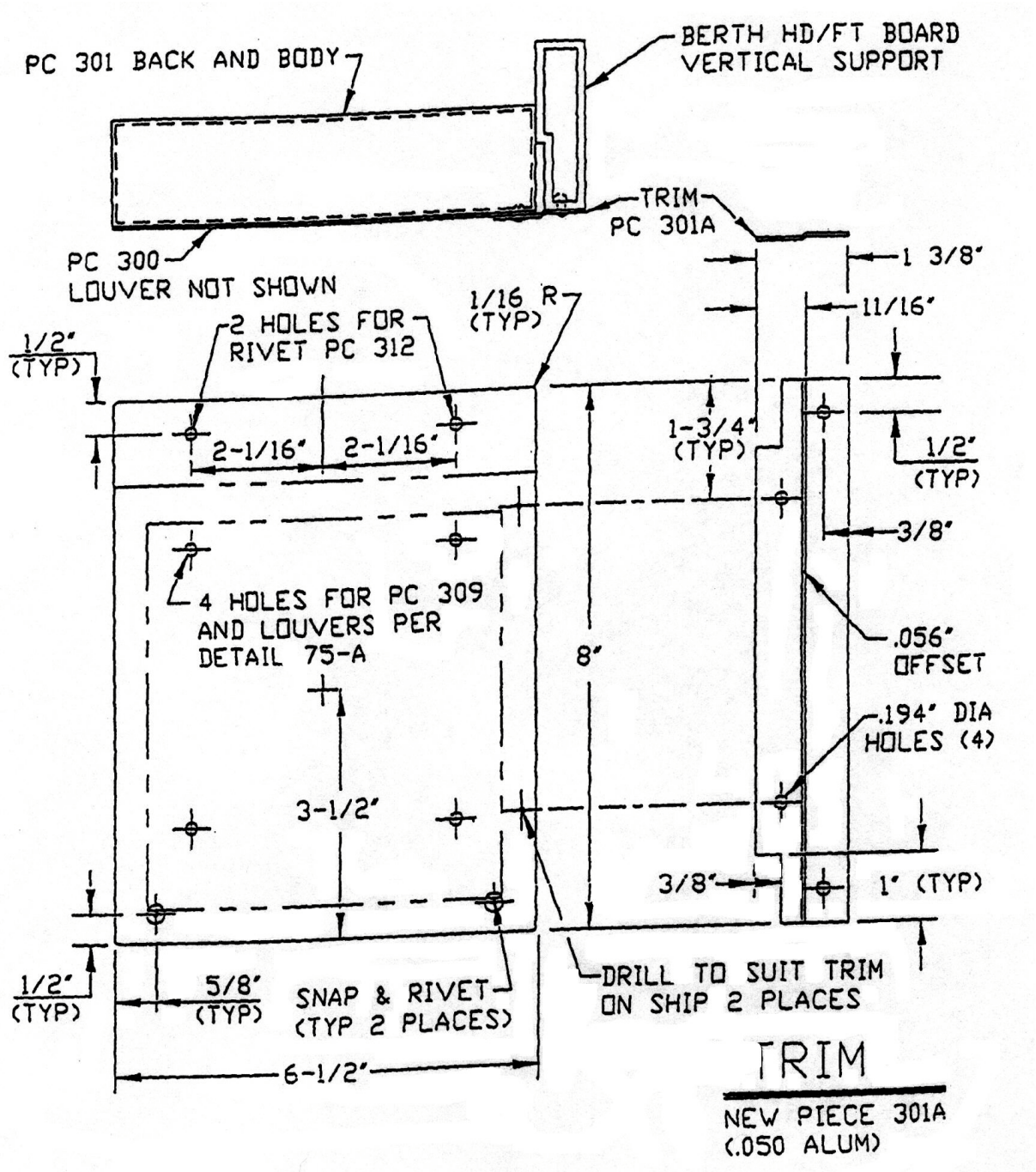
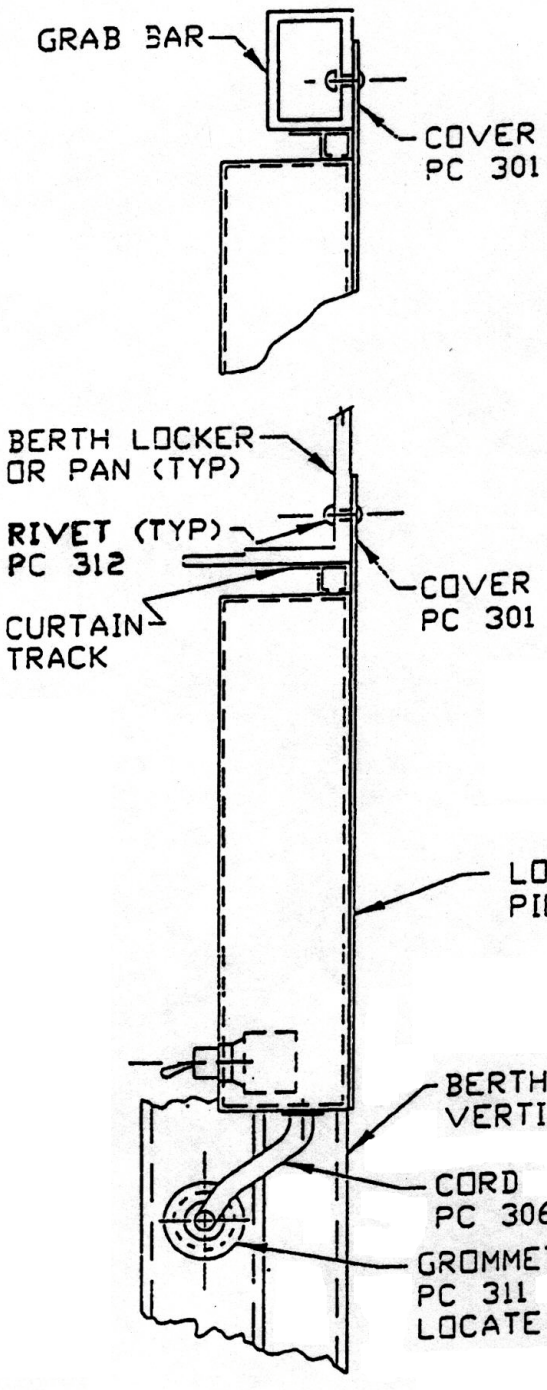


FIGURE 10
TYPICAL INSTALLATIONS



NOTES:

1. FAN HOUSING PC 300 AND HOUSING COVER PC 301 ARE REVISED TO SIMPLIFY CONSTRUCTION AND SHIPBOARD INSTALLATION. PC 300 AND PC 301 SHALL BE IN ACCORDANCE WITH THIS FIGURE. FOR DETAILS NOT SHOWN SEE DRAWING 804-5959312 DETAIL 75-A AND 78-E AND ASSOCIATED VIEWS. TRIM PC 301A AND CABLE CLAMP PC 301B ARE NEW ITEMS.

2. FAN PC 308 SHALL BE WHISPER FAN MODEL NO. WR2A1 AS FURNISHED BY COMAIR/ROTRON COMPANY OF SAN YSIDRO CA, OR EQUAL.

3. CURTAIN TRACK MAY BE REMOVED IN WAY OF FAN, OR MAY BE RETAINED IN PLACE.

3.15 Locker Lid Lift Assist Spring Assembly.

3.15.1 GUDEN Gas Spring. GUDEN gas spring Part Number GGS20-P1-120 with two (2) EF203 End Fittings shall be provide for each Crew berth locker units when ordered as part of a berth unit, and similar spring or fitting item substitution is prohibited.

3.15.2 Gas Spring Orientation. Orientation of gas spring within each locker body shall be with the gas spring shaft intersecting the heel of the lower rear locker body at the center hinge reinforcement location, Figure 11 refers.

3.15.3 Gas Spring Mounting Hardware. Mounting hardware or fastener requirements are illustrated on Figure 12, and similar hardware or installation methodology substitution is prohibited.

3.15.4 Spares. When procured as Spares, the Locker Lift Assist Spring Assembly shall consists of a singular package containing: (1) one GUDEN gas spring Part Number GGS20-P1-120 with two (2) EF203 End Fittings; (2) Two (2) Spring Brackets; (3) all hardware that supports the assembly of the gas spring to the two (2) spring brackets and the required hardware for mounting that compete assembly to the locker lid and locker body.

3.16 Berth Curtains.

3.16.1 Design and Construction. Requirements of Commercial Item Description A-A-59473 shall be met.

3.16.2 Level C Packaging. Curtains shall be packaged to afford protection against deterioration, damage, or loss during shipment from the supply source to the first receiving activity for immediate use. The contractor's normal retail or wholesale packaging methods may be utilized when such meet the requirements of this level.

3.16.2.1 Packing. Curtain shall be packed in containers acceptable to the common carrier and which will insure safe delivery at destination in a satisfactory condition. Containers, packing, or method of shipment shall comply with Uniform Freight or Motor Freight Classification Rules or Regulations or other carrier rules as applicable to the mode of transportation.

3.17 Alternate Material.

? Where steel sheet under 3/16-inch thickness is specified, steel sheet material in accordance with ASTM-A366 may be used.
? In lieu of brass material, Cardholders (piece number 68), may be shall be fabricated from AISI CL 304 material.

3.18 Berth Unit Isometric Installation Drawing. Each berth unit shall be furnished with an isometric installation/assembly drawing. This drawing shall graphically identify the erection sequence with supporting text/instructions and shall be suitably sized and formatted for its intended service (see paragraph 6.4 for additional requirements).

3.19 Shock Hardened Berth Unit. When a Berth Identification (ID) Number (Bin Or Find Number) contains the extension letter "W", the manufacturer shall furnish such berth units manufactured to the approved shock qualified design.

FIGURE 11
GAS SPRING ORIENTATION

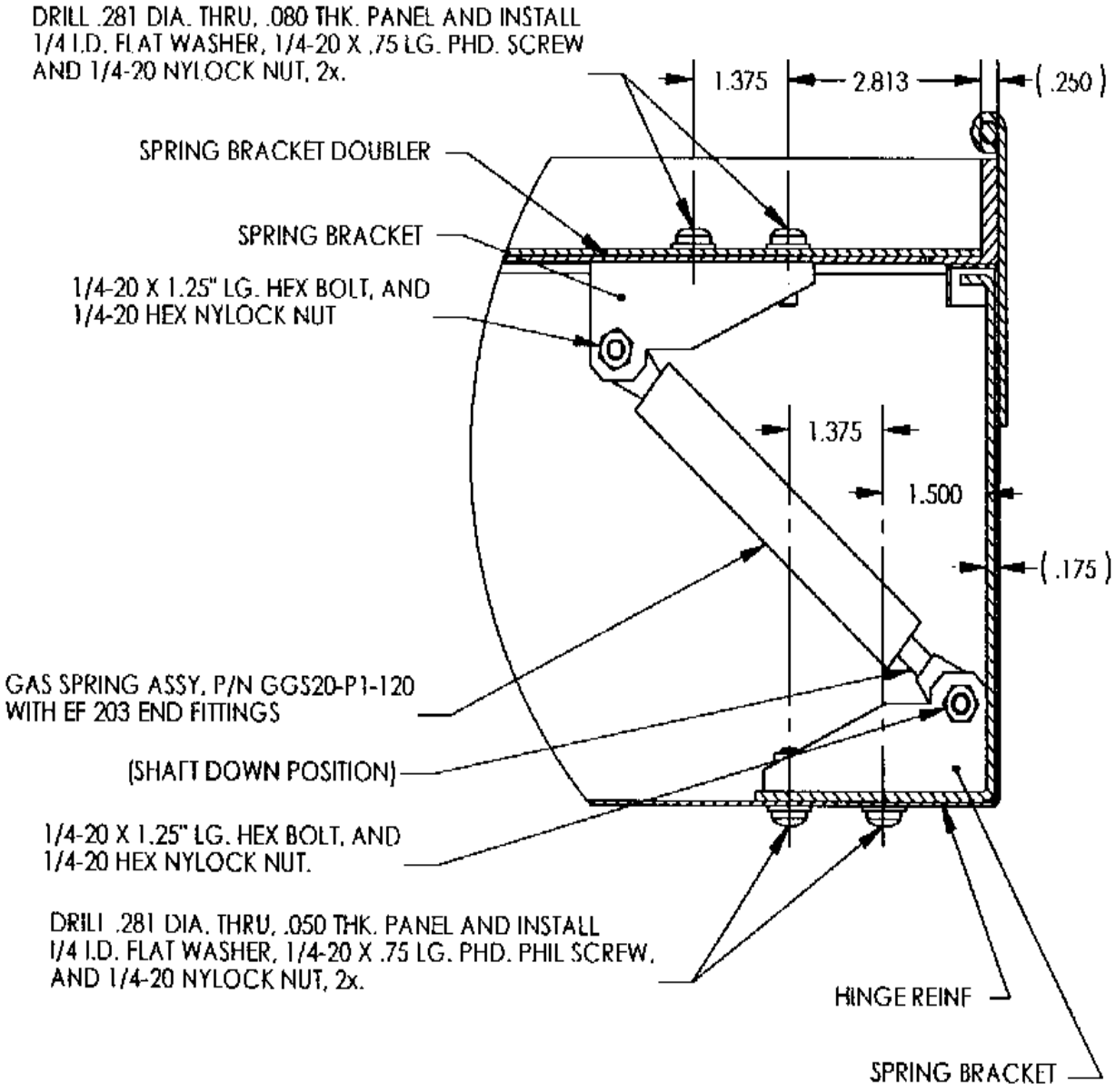
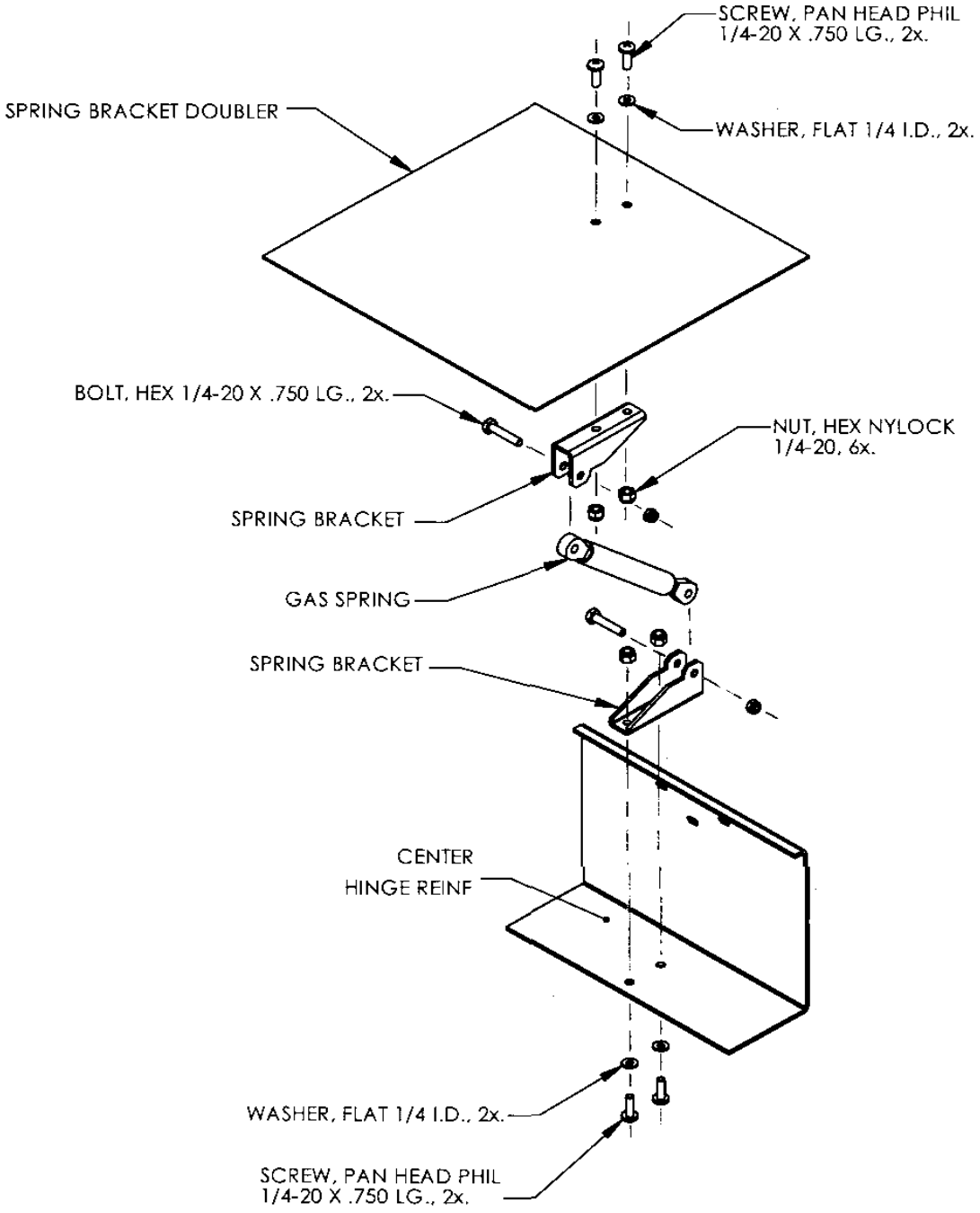


FIGURE 12
GAS SPRING MOUNTING HARDWARE



4.0 Inspection System, Engineering Change Proposal, Deviation, and Waiver Requirements.

4.1 Inspection System. The contractor/manufacturer shall establish and maintain an inspection system program that can substantiate product conformance to the material and manufacturing requirements of the approved drawing(s), specification(s), and contract provisions, including other product inspections and tests identified in this procurement specification. The program shall describe the inspection instructions developed for the work in process and finished articles; and selected documentation methods employed to assure conformance during product design, production and delivery.

4.2 Government Inspection. The Government reserves the right to perform any inspection or test, including in-process inspection.

4.2.1 Inspection Site. For government inspection, site of inspection shall be at the facility identified as the source of berth unit manufacturing.

4.3 Engineering Change Proposal (ECP). An ECP document, format as developed by the Contractor, shall be submitted when a permanent change is warranted to any design detail shown in the NAVSEA TYPE Drawing 804-5959312 Revision "A" as a result from either:

? A physical or functional change in a subassembly and/or component's original characteristic.
? Requesting extension approval for recurring or previously approved deviations.
? Requesting extension approval for recurring or previously approved waivers.

4.4 Deviation. A deviation document, format as developed by the Contractor, shall be submitted when the contractor/manufacturer considers it necessary to temporarily depart from a mandatory requirement of this specification or contract prior to production of the item.

4.5 Waiver. A waiver document, format as developed by the Contractor, shall be submitted only when an item is produced that does not conform to a stated requirement of this specification or contract and subsequently the item is rejected for delivery.

4.6 Waiver of Requirements. Any offeror furnishing a product that is appropriate for this contract and has received prior Deviation or Waiver Government approval, including ECP(s), shall include in the bid a copy of each ECP, deviation, or waiver acceptance document attached to the document/drawing package that received it. The Government reserves the right to waive any requirement stated within this technical specification and/or contract.

4.7 ECP/Deviation/Waiver/Sample. The government reserves the right to request the contractor/manufacturer, at no cost to the government, to submit full or partial item or article sample(s) to support the intent of the item design, drawing detail(s), or the narrative description(s) submitted for ECP/Deviation/Waiver review. Disposition of submitted sample(s) upon post government review may be mutually agreed upon between participating parties.

4.8 Proprietary Features. The government has Unlimited Rights to all submitted designs, drawings, and so forth, including all designs, details and notes submitted as Engineering Change Proposals, Deviations, and Waivers in relation to this contract/solicitation. No proprietary features are requested, desired or acceptable. The government may remove or ignore any restrictive markings or limited rights statements from all documents submitted in relation to this contract/solicitation.

5.0 Delivery.

5.1 Preservation, Packaging, Packing and Marking Requirements. Preservation, packaging, packing and marking shall be in accordance with ASTM D3951-98, "Standard Practice for Commercial Packaging" and as additionally noted herein.

5.2 Packaging/Packing Requirements.

5.2.1 Containers. Each berth unit shall be packaged in two (2) fiberboard shipping cartons. Each carton or container shall be packed so that when the items are unpacked from the top they are in the order needed for on-site assembly and installation.

5.2.1.1 Number One (1) Container. The number one container shall be packed so that it can be hand carried in any orientation. This container shall include everything for installing the frame or shell of the berth unit including:

- ? Sub-base (except when omitted by Berth ID)
- ? Head/Foot Boards
- ? All fasteners (except those for "accessories" in container two)
- ? One (1) Towel Bar (other(s) in Number two container)
- ? Back Panels
- ? Curtain tracks mounted on grab bars
- ? Cross bracing (if required)
- ? Cover Panel (if required)

5.2.1.2 Number Two (2) Container. The number two (2) container will be opened on a pier, wharf or open deck area aboard ship and the Berth Locker(s), Pan(s), and subassembly containers will be hand carried into the ship. This container shall include:

- ? The Berth Locker(s) and/or Pan(s) and all other subassemblies
- ? The "accessories" subassemblies: Lee Straps, Steps, Berth Light and EEBD mounting brackets, Berth Lights, Fans (if required), Towel Bars, "Long Berth" Label Plates, long Grab Bars and Cardholders shall be packaged as individual kits with their own fasteners.
- ? Lights and Fans shall have a single subassembly per kit; the others may be single subassemblies per kit
- ? All subassemblies that are not stored inside a berth locker shall be grouped as a unit in a single container that can be hand carried to the installation location.

5.2.1.3 Fasteners. Within each of the two containers and within each kit provided, size and type in reseal-able containers or bags, altogether packaged within a single reseal-able container or bag shall segregate fasteners.

5.2.1.4 Spares. Subassembly spares shall be packaged as individual kits and marked with the subassembly number. Each kit shall be grouped and packaged together in individual containers by like subassembly numbers and marked with the subassembly number and enclosed quantity. Those individual containers shall be fiber board shipping cartons and the contents within each carton shall be blocked or braced and cushioned as necessary to prevent shifting and damage during transit and handling.

5.2.1.5 Carton/Container Packaging/Packing. The carton/container contents shall be blocked, braced and/or cushioned on top, bottom, and on all sides to afford adequate protection against deterioration and physical damage resulting from product shifting during transit, storage, and handling. Separators shall be inserted between painted components

in order to prevent damage to those items. The use of asbestos, loose fill polystyrene, excelsior (fine wood shavings), newspaper or shredded paper of all types (including waxed paper, computer paper and similar hygroscopic or non-neutral material) is prohibited.

5.2.2 Shipping Crate Description. In order to resist shipping deformation and damage, and facilitate container handing with forklift trucks and achieve a container stacking capability of at least four high in the horizontal position for warehousing, the berth unit shipping cartons/containers shall be crated as shown in the attached sketch. The crated package consists of two- (2) fiberboard shipping cartons, reinforced with wood framing, nailed and banded with two steel bands around the short girth of the carton for added strength.

5.2.2.1 Shipping Crate Sketch. Figure 13 shows the method of reinforcing framing and crate banding required for the berth unit-shipping crate. The two encircling wooden belts around the short girth of the cartons/containers shall be nominal sized lumber for 2-inch by 4-inch material. The remaining material may be nominal sized lumber for 1 by 4 or 1 by 6-inch material. The crate shall be securely fastened together by steel banding as shown.

5.2.3 Packaging List. The contractor/manufacturer shall provide a packing list identifying the contents of each shipment with each shipment.

5.2.3.1 Itemized Listing. In addition to any other requirements, the Packing List, Invoice, Material Inspection and Receiving Report (Form DD 250) and any other forms utilized shall itemize each delivery by:

- ? Contract Number
- ? Delivery Order Item Number
- ? Berth Identification Number (or Subassembly Number for Spares)
- ? Quantity

5.2.3.2 Subassembly Spares. Subassemblies, which are spares that are not included within a berth unit, shall be separately itemized and identified by item description and labeled as "SPARES".

5.2.3.3 Separate Shipments. When separate shipment is authorized, the packing list shall identify those ancillary parts that are shipped separately.

5.2.3.4 Bar Coding. The packaging list shall include bar coding as required for above for packages.

5.2.3.5 Packaging Lists Substitution. Material Inspection and Receiving Report (DD Form 250) may be substituted for the packing list if the form contains the required data for each specific shipment.

5.3 Marking Requirements.

5.3.1 Berth Unit Containers. Shipping information shall include the Berth Identification (ID) Number (the Basic Berth Number and Berth Extension Letters) for each berth unit.

5.3.2 Subassembly Spares. Subassembly spares grouped and packed together in individual containers by like subassembly numbers shall have markings to include the Subassembly Number and quantity enclosed within each container.

5.3.3 Individual Item Marking. To ensure proper assembly of berth units by ship's force, the contractor/manufacturer shall mark the assigned Subassembly Number on each Sub-base, Berth Locker/Pan, Head/Foot Board, Insert Panel, Back Panel, and Cover Panel. These Subassembly Numbers shall be marked on those components with an indelible marker in a location that would not be visible when the berth unit is completely assembled.

5.3.4 Missing Part Marking. Where necessary and when specific authorization has been obtained to ship a contract line item without any of its ancillary parts**,** the shipping carton shall be marked to identify the missing parts.

5.3.5 Bar Coding.

5.3.5.1 Units. Berth Units shall be bar coded in accordance with MIL-STD-129 with the Berth Identification (Berth ID) Number (or Find Number) and the Contract Number with the Delivery Order (under the mark for M/F Ship's Name).

5.3.5.2 Subassembly Spares. Spare items shall be bar coded in accordance with MIL-STD-129 with the Subassembly Number (or Find Number) and the Contract Number with the Delivery Order (under the mark for M/F Ship's Name).

5.3.5.3 Label Format. Bar coded label shall be formatted as shown below or formatted so that the text and respective bar code appear on the same line. The call outs, i.e. "FIND NO", "CONTR", and “DELIVERY ORDER” are not bar coded.

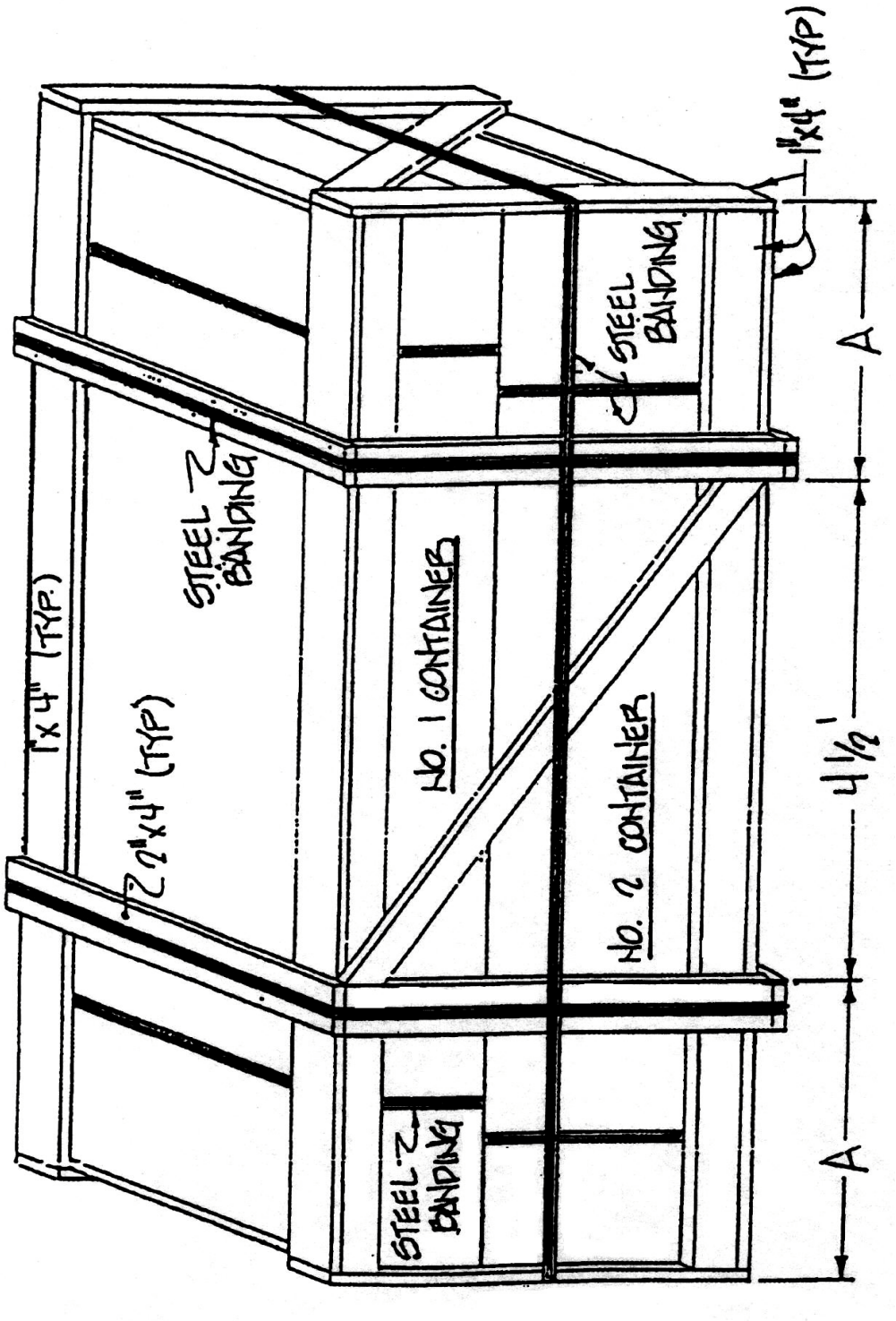
11111111111111111111111
FIND NO B321Q*$#

11111111111111111111111
CONTR N65540-03-D-XXXX

11111111111111111111111
DELIVERY ORDER XXXX

Note: Bar Code shown to the left is for example purposes only and does not correctly identify text information given.

FIGURE 13
SHIPPING CRATE SKETCH
BERTH KIT CONTAINER



6.0 ORDERING DATA.

6.1 Preliminary Drawing. Preliminary Product Drawings and Associated Lists shall be prepared in accordance with MIL-DTL-31000, paragraph 3.6.3 and as tailored by DD Form 2554-1. Drawing shall include paragraph 3.0 requirements of this technical procurement specification and shall exhibit the level of detail that is shown in the NAVSEA TYPE Drawing. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.2 Final Drawing. The Final Product Drawings and Associated Lists shall incorporate all approved design changes accomplished as a result of the Governments review of the Preliminary Drawing. The Final Product Drawings and Associated Lists shall be prepared in accordance with MIL-DTL-31000, paragraph 3.6.3 and as tailored by DD Form 2554-1. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.3 Revised Drawing. The contractor/manufacturer shall provide Revised Product Drawings and Associated Lists to reflect each Government approved note, engineering change, deviation, and etc. as they individually occur throughout the ordering/performance period of the resulting contract. Revised Product Drawings and Associated Lists shall be prepared in accordance with MIL-DTL-31000, paragraph 3.6.3 and as tailored by DD Form 2554-1. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.4 Preliminary Berth Unit Isometric Installation Drawing. The contractor/manufacturer shall develop and submit for Government review and approval, an isometric erection drawing which graphically identifies the berth unit erection sequence with supporting text/instructions. The drawing shall be suitable sized and formatted for the intended service and shall additionally contain instructions as described below and as tailored by DD Form 2554-1. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.4.1 Deck Studs. Isometric drawing shall include a weld note for the deck studs that are furnished by the on-site installation activity, stating "Automatic stud welding or 3/16 inch fillet weld all around stud".

6.4.2 Sub-Base. Isometric drawing shall include a Sub-base installation note for the on-site installation activity, stating "Scribe and cut the Sub-base Trim as feasible to suit any deck irregularities or slope in order to minimize the need for flashing."

6.4.3 Component Listing. The assembly drawing shall include a listing of all components and respective fasteners by item description, quantities and lengths.

6.4.4 Shock. Berth units that are specified to meet shock requirements shall include on the drawing, installation instructions that are specifically tailored to suit the installation method necessary to meet that requirement.

6.5 Final Berth Unit Isometric Installation Drawing. The contractor/manufacturer shall furnish a copy of the Government approved drawing equal in size, format and print quality that will be furnished with each berth unit delivered. Submittal shall be in accordance with Contract Data Requirements List Form 1423-2 and DD Form 2554-1.

6.6 First Article Test (F.A.T.) Procedure. The contractor/manufacturer shall prepare a F.A.T. and Inspection procedure, a singular document with separate sections, in accordance with Data Item Description DI-NDTI-80603. The test procedure shall include the physical and visual examination/inspection standards and methods necessary to verify compliance to the criteria outlined below. The test procedure shall consider each subassembly and/or component which make-up the berth unit sample identified below, the

berth light fixtures (both fixtures: with and without receptacle) and the fully assembled berth unit. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

? Item design, material and dimensional conformance to the Approved Product Drawing and Associated Lists

? Conformance to the test and inspection criteria of Table II of MIL-F-16377/17A(except shock).

6.6.1 Berth Unit Sample. The contractor/manufacturer shall perform F. A. T. and Inspection on berth unit Berth ID B324Q for First Article Test and Inspection (see Figure 1 for berth configuration). The berth unit sample shall also include:

? Both types of berth light fixtures (Symbols 232 and 232.1) with fixture bracket and wires properly installed
? Fans with fan wires properly installed
? Lee Straps
? Berth curtains omitted
? EEBD Stowage Container Bracket (piece number 87) with EEBD Stowage Container installed

6.6.2 Disposition of Test Sample. The test sample shall be kept on hand by the contractor/manufacturer for comparison inspection for at least 120 days after F.A.T acceptance. After the 120 days and at the vendor's option, the sample may be reworked and offered for delivery.

6.7 First Article Test (F.A.T.) Report. The contractor/manufacturer shall prepare a F.A.T. and Inspection report, a singular document with separate sections, in accordance with Data Item Description DI-NDTI-80809. The test report shall identify the test and inspection results from accomplishing First Article Test and Inspection. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.8 High Impact (H. I.) Shock Test Procedure. The contractor/manufacturer shall prepare a H. I. Shock Test procedure in accordance with Data Item Description DI-ENVR-80709 for each berth unit sample identified in paragraph A.3 subparagraph 6.2.1(q) of this specification. This document shall also include tentative date(s) schedule for conducting each shock test and post-test inspection. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

6.8.1 Disposition of Test Sample. At the contractor/manufacturers discretion, shock tested items may be refurbished and submitted for acceptance by the Government as one of the production units to fill a Delivery Order requirement. The refurbished or tested items must satisfy the inspection criteria cited within the approved First Article Test and Inspection procedure.

6.9 High Impact (H. I.) Shock Test Report. The contractor/manufacturer shall prepare a H. I. Shock Test report in accordance with Date Item Description DI-ENVR-80708 for the tested berth unit samples. Submittal shall be in accordance with Contract Data Requirements List, Form 1423-2.

APPENDIX A

HIGH IMPACT (H. I.) SHOCK NOTES AND REQUIREMENTS

? The contractor/manufacturer shall determine the level of berth unit design modification required for passing High Impact (H. I.) Shock Test criteria.
? The contractor/manufacturer is entirely responsible for shock test scheduling, managing, performing and passing all test requirements.
? Prior to commencing shock testing, the contractor/manufacturer must have obtained the required Government review and approval for all design modifications.
? Any modification made during the testing evolution shall be submitted as deviations for approval at the conclusion of the test.
? Copies of approved deviations or waivers shall be made part of the Shock Test Procedure and Shock Test Report.
? The passing of shock test acceptance criteria of the four berth unit configurations (identified in paragraph A.3) qualifies all remaining (untested) berth unit configurations for shock grade installation when manufactured to the approved shock qualified design.

A.1 General Notes: The contractor/manufacturer shall consider the following when developing the shock hardening design modification, for test scheduling and other shock test related efforts.

A.1.1 Sub-Base Corner Brackets. Sub-base Corner Brackets (piece numbers 125 through 128) may be replaced with two (2) formed steel components that span from front to back across each Sub-base end. Components shall be fabricated from material conforming to ASTM-A366 for 11 Gauge carbon steel and designed to provide bearing surface area equal to the comer brackets removed that contacted the Sub-base trim. These new components must be appropriately detailed prior to submitting the design for technical review and approval.

A.1.2 Cross Bracing. Cross Brace member (piece number 39) may be fabricated from carbon steel material conforming to ASTM-A36 for bar size channel, 1-1/2 inch by 1/2 inch by 1/8 inch (1.12 lb/ft) for satisfying shock hardening concerns only. Length shall be in accordance with paragraphs 3.8.1 or 3.8.2.

A.1.3 Weight Increase. The maximum total weight allowable increase from the design and material changes in paragraphs A.1.1 and A.1.2 is eight (8) pounds.

A.1.4 Modification Effect. Proposed shock hardening designs or component modifications shall not affect the interchangeability and fastening of the Sub-base Trim to the deck or to other Subassemblies.

A.1.5 H. I. Shock Test vs. F.A.T. High Impact shock testing is an independent test evolution, not to be associated with the performance of First Article Test and Inspection.

A.1.6 Test Scheduling. Shock testing effort shall not interfere with the performance of First Article Test and Inspection nor with the delivery of berth units that are not required to be shock hardened (shock qualified).

A.1.7 Simulated (Dummy) Loads. The contractor/manufacturer is responsible for furnishing and installing all required simulated loads or articles of berth outfitting prior to shock testing of berth unit.

A.2 H. I. Shock Test Requirements. Note: The below outline furnishes the requirements and supporting information necessary to develop a shock test procedure and is numerically consistent with the corresponding subparagraphs under paragraph 6.2 of MIL-S-901D.

6.2(a) Reference document to support shock test effort is Military Specification MIL-S-901D, dated 17 March 1989, Requirements for High Impact (H. I.) Shock Test for Shipboard Machinery, Equipment, and Systems.

6.2(b) The applicable revision of each document reference is listed in paragraph 2.1 of this technical specification.

6.2(c) Berth units to be tested are classified to Grade B shock grade.

6.2(d) Berth units to be tested are classified as Class I equipment.

6.2(e) Completed berth units with sub-base assemblies are classified as shock test Type A.

6.2(f) Completed berth units with sub-base assemblies are deck mounted on surface ships.

6.2(g) Completed berth units are base mounted aboard surface ships.

6.2(h) Mounting orientation aboard surface ship is classified as unrestricted. Testing shall cover both forward/aft and athwartship orientation.

6.2(i) Berth units shall be mounted onto a medium weight, shock machine anvil table by means of:

6.2(i) - 1 A standard mounting platform, as shown on Figures 13 and 14 of MIL-S-901D, for shock loading in the vertical direction. Details for mounting (such as wide flange beam assembly or steel plate) to suit size of berth unit to the standard platform shall be incorporated into the H. I. Impact Test Procedure and submitted for government review and approval.

6.2(i) - 2 A standard inclined fixture, as shown on Figures 16 and 17 of MIL-S-901D, for shock loading in the athwartship direction. Each berth unit shall each be mounted in two different inclined orientations. For one set of the inclined orientation test blows, the Foot Board shall be facing down at the bottom of the incline. For the other set of inclined orientation test blows, the berth front shall be facing down at the bottom of the incline.

6.2(j) There are no simulated shipboard restraining effects to be incorporated into the shock test, resulting from additional structural connections made to the berth. Berth units shall be mounted onto the test fixture as stated below or as detailed by the contractor/manufacturer's design modifications that have received Government approval.

6.2(j) - 1 The suggested shock hardened detail modifications as shown on NAVSEA TYPE Drawing 804-5959312"A" shall be modified for the shock test as follows: Sub-base trim (piece number 42) shall be 2-1/2 inches high, mounted onto 4-inch high deck studs. A clear opening between the bottom of the sub-base trim and the mounting platform of approximately 1-1/2 inches shall be provided. Flashing (piece number 88) shall not be installed. All mounting hardware, fasteners, studs, chocks and etc. shall be provided and installed by the contractor/manufacturer.

6.2(j) -2 Simulated (dummy) loads and articles of berth outfitting as identified below shall be represented in each berth unit undergoing shock testing:

? Emergency Escape Breathing Device (EEBD) stowage containers in accordance with NAVSEA STANDARD drawing 804-5751208"A" shall be installed under

each Fixed type sleeping surface and on the EEBD stowage bracket for all upper Fixed berths.

? Each EEBD stowage container and EEBD Locker Compartment shall have a simulated weight for the EEBD of 5 pounds installed.

? Each Fixed or Hinged berth assembly shall be outfitted with a mattress, three (3) inches thick, weighing approximately 25 pounds each.

? A simulated person's weight of 200 pounds shall be uniformly distributed on each mattress installed.

? A simulated personal effects weight of 100 pounds shall be uniformly distributed in each berth locker. Towels and/or rags shall be used for packing material for other articles needed to satisfy the simulated load requirement while completely filling the locker volume.

? Type V berth units, only, shall be tested with four (4) simulated steel rifles and rifle racks installed. Simulated weight of rifle rack shall be based from NAVSEA STANDARD Drawing 803-5001001. Installation location for the rifle rack shall be in accordance with NAVSEA Drawing 807-6251154.

? Berth light fixtures and Fan assemblies shall be installed but not connected to a power source. Power cords shall be installed through the Head/Foot Board wiring access to the top of the berth unit, then either cut off or coiled securely to the unit.

? Lee Straps shall be installed.

6.2(k) All locker and EEBD compartment doors shall be closed for each test blow.

6.2(l) There is no requirement for monitoring of berth unit(s) during tests. Inspection of berth unit(s) shall be conducted after each test blow for the purpose of determining compliance to the shock test acceptance criteria given below:

? As configured, the berth unit, including subassemblies and articles of berth outfitting attached by mechanical or welded means to the berth unit shall not come adrift due to the exposure from shock testing.
? Deformation of deck mounting studs is acceptable.
? There is no requirement for the Small Article (locker) and EEBD stowage container doors to remain closed during or after each test blow or be functional after completion of test.
? There is no requirement for the Berth locker/lid doors or the fan and light assemblies remain functional after completion of test.

6.2(m) Acceptance authority shall be the designated Government activity or representative(s) as specified by the Contracting Activity (or Officer).

A.3 H. I. Shock Test Supplemental Requirements. Note: The below outline furnishes the requirements and supporting information necessary to develop a shock test procedure and is numerically consistent with the corresponding lettered subparagraphs for paragraph 6.2.1 of MIL-S-901D.

6.2.1(a) Medium weight shock test category applies; paragraph 3.1.2(b) of MIL-S-901D.

6.2.1(b) Detailed test procedure shall be submitted to the Contracting Activity (or Officer) for Government review and approval prior to commencing shock testing.

6.2.1(c) Shock tests shall be conducted at commercial test facilities. The use of Large floating shock platform is not acceptable.

6.2.1(d) There are no additional requirements for selection of standard test fixture(s) or specific criteria to simulate shipboard mounting conditions. Selection of test fixture(s) is stated in paragraph A.2 subparagraph 6.2 (i) of this technical specification.

6.2.1(e) Testing of Class III items is not applicable.

6.2.1(f) Requirements for weight or design of dummy masses (simulated loads and articles of berth outfitting) are stated in paragraph A.2 subparagraph 6.2 (j) -2 of this technical specification.

6.2.1(g) Subsidiary components or subassemblies group simulations are not applicable.

6.2.1(h) Requirement for heavyweight shock testing is not applicable.

6.2.1(i) Requirement for partial simulation of operating conditions during shock test other than as described within this technical specification is not applicable.

6.2.1(j) There are no additional limitations upon allowable loosening of fasteners beyond the requirements set forth in paragraph A-2 subparagraph 6.2(l).

6.2.1(k) There are no noise or vibration standards applicable.

6.2.1(1) Requirements for pre-delivery testing or examination of shock tested items: refer to paragraph 6.8.1 of this technical specification.

6.2.1(m) Disposition of shock tested items: refer to paragraph 6.8.1 of this technical specification.

6.2.1(n) Use of alternate Government-owned shock test vehicle is not applicable.

6.2.1(o) Shock test extension criteria are as stated in paragraphs 3.2.1 through 3.2.2.1 of MIL-S-901D. Request for shock test extension shall be in accordance with Data Item Description DI-ENVR-80706.

6.2.1(p) The drawing requirements, Ordering Data paragraph 6.3 refers, shall also include the information requested in paragraph 3.3.1.1 or 3.3.1.2 of MIL-S-901D.

6.2.1(q) The four (4) berth units, configured as listed below and fully outfitted with simulated (dummy) loads and articles of berth outfitting, shall be shock tested.

? Berth ID B335EQW: Type 1, Style 2, Size 3
Basic berth configuration is 3 sleeping surfaces with 3 berth lockers, long length berth with 20-inch spacing between sleeping surfaces. Berth unit Extension Letters requires a shock hardened berth unit with all Head and Foot Board Insert Panels omitted and an Emergency Escape Kick-Out panel and frame assembly installed in the bottom back panel.

? Berth ID B335AXYW: Type 1, Style 2, Size 3
Basic berth configuration is 3 sleeping surfaces with 3 berth lockers, long length berth with 20-inch spacing between sleeping surfaces. Berth unit Extension Letters requires a shock hardened berth unit with all Head and Foot Board Insert Panels and all Back Panels omitted, Cross Bracing installed and additional Lee Straps and Grab Bar installed across the top back of unit.

? Berth ID B401EQW: Type V, Style 1, Size 2

Basic berth configuration is 4 sleeping surfaces with no berth lockers, medium length berth with 18-inch spacing between sleeping surfaces. Berth unit Extension Letters requires a shock hardened berth unit with all Head and Foot Board Insert Panels omitted and an Emergency Escape Kick-Out panel and frame assembly installed in the bottom back panel.

? Berth ID B401AXYW: Type V, Style 1, Size 2
Basic berth configuration is 4 sleeping surfaces with no berth lockers, medium length berth with 18-inch spacing between sleeping surfaces. Berth unit Extension Letters requires a shock hardened berth unit all Head and Foot Board Insert Panels and all Back Panels omitted, Cross Bracing installed and additional Lee Straps and Grab Bar installed across the top back of unit.

6.2.1 (r) Government representatives as designated by the Contracting Activity (or Officer) shall witness each shock test and post-test inspections and shall certify the reported shock test and post-test inspections.

6.2.1 (s) Acceptance authority shall be furnished with two (2) copies of the Shock Test Procedure.

6.2.1 (t) Acceptance authority shall be furnished with two (2) copies of the Shock Test Report.

6.2.1 (u) Acceptance authority shall be furnished with two (2) copies of the Shock Test Extension Request.